101.43
5/1

RESERVE

MAGAZINE VOLUME XXI NUMBER 1

Those Strange New Infantry Fighting Machines

What In The World The Infantry's Fighting From

BRIEFS

• Nearly 1,000 passed-over Reserve officers will be retained in rank and on active duty during Fiscal Year 1979 if Congress approves a recommendation by the House Appropriations Defense Subcommittee. The Subcommittee proposal is attached to FY'79 Defense appropriations request and would affect only mandatory release because of service or DOD regulations, not by Federal law.

• Male and female Reserve Officer volunteers are wanted to compete in this year's CIOR military pentathlon being held in France during late August. Enlisted volunteers are needed for the CISM competion in Norway in mid-August. For more information write to: USMPTC, ATTN: Captain Roger Harvey, Building 189, Fort Sam Houston, Texas 78234.

• Enlisted Reservists are being sought for 4-year overseas active duty tours. MOSs needed are: 05C/D/K, 12E, 15D/E/F/J, 16B/C/D/E/H, 21G/L, 22L/N, 23N/V, 24C/G/K/L/v, 26H/V, 27G/H, 31D,L/S/T, 32D/F/G, 34E/F/H/J, 35F/H, 36L, 45P/R, 46N, 55G/Z, 62C, 71R, 72G, 98G. Call MILPERCEN at 703-325-8386 for details.

• Army Center of Military History has MOBDES openings for a Lieutenant Colonel and a Major. Holders of advanced degrees in history preferred. Write Lt. Col. J. H. Ferguson, Executive Officer, 6B108 Forrestal Bldg., 1000 Independence Ave., Washington, D.C. 20314 or call Autovon 223-5035, Commercial 202-693-5035.

• Soldiers who converted to MOS 63B (Power Generator/Wheeled Vehicle Mechanic) from 52B will not be required to take SQTs until April '79. Current Soldier's Manuals do not cover their new duties.

• US Army Europe has began an intensified urinalysis program to identify drug users. Entire companies will be tested.

• An interim change to AR 635-299 forbids including information about a soldier's participation in drug or alcohol rehabilitation programs as evidence in administrative discharge proceedings. If the information is used, the soldier must be given an honorable discharge or another hearing.

• The Expeditious Discharge Program has been extended to Army Reserve Component commanders. Guardsmen and Reservists who exhibit substandard performance are subject to discharges without court martial action. The active Army has had EDP authority for general and honorable discharges since 1974.

• SFC Larry L. Hector of the 104th Division (Tng) was named 1978 Army Reserve Drill Sergeant of the Year, and SFC Dennis Watters of Fort Leonard Wood, Missouri, was picked as the top active Army Drill Sergeant of 1978.

• Height standards for military policemen have been lowered from 5', 9" to 5', 4", the same minimum standard used for policewomen. Some law enforcement MOSs have vacancies for which soldiers in other MOSs may qualify. See AR 611-201 and DA Circular 611-56.

• The Primary NCO Course, Combat Arms, and the Primary Leadership Course will be available during the '78-'79 USAR school year. The former is to develop leadership skills for E-4s and E-5s in infantry, artillery, engineers and armor. The combat arms course will be taught during two MUTA-4s and during two weeks Annual Training while the PLC will be taught during either IDT or two weeks of annual training.

ARMY RESERVE MAGAZINE

VOL. XXV NUMBER 1

DEPARTMENTS

BRIEFS 2
PEOPLE 3
LETTERS 5
ACTIVE 6
HAPPENINGS 14
WEAPONS 24
POLICY 31
INTELLIGENCEWATCH 32
CONSUMERWATCH 34

CHIEF, ARMY RESERVE
Maj. Gen. Henry Mohr

CHIEF, PUBLIC AFFAIRS
EDITOR-IN-CHIEF
Lew Brodsky

EDITOR
Bernard F. Halloran

MISSING ISSUES: For the past two years the publication of this magazine has been sporadic. In 1977, three issues were published: Jan-Feb, Mar-Apr, May-June-July-Aug. In 1978, three more issues were produced: March-April, May-June and July-August.

COVERS: This issue's cover was originally done by Angus McKie for Harry Harrison's book **Mechanismo**, a look into the year 2495. The fighting machine on the front cover is suggested by the articles on infantry fighting machines in this issue: the US IFV update is on page 11, and our cover story on foreign trends in IFV design begins on page 24. The robot on the back cover, incidentally, is known as a BMU, a massive perambulatory battle robot used during the Division Wars of the 25th century.
CONTRIBUTING: Doug Walker of the 108th Division was kind enough to provide us with "It's No Easy Job Training The Trainers," beginning on page 20, and Lt. Col. Tommy Poole cranked out the majority of the information needed to compile the shooting report entitled, "And A Bang Up Time Was Had By All," beginning on page 22. PHOTOS: Paul Adams, Henry Campbell, George Lilly, p. 3; Betsy Miskowiec, p. 4; Spec. 4 Patrick Keough, p. 16; National Rifle Association, p. 22; Interavia, Rheinstahl, Bundesministerium der Verteigdigung, pp. 24-27; Interavia, Jack Grimes, Engles-Brasil, British Army, pp. 28-29; Interavia, p. 30; Realart, p. 31; U.K. Land Forces, p. 32.

ARMY RESERVE MAGAZINE is published bi-monthly by the Chief, Army Reserve, DAAR-PA, The Pentagon, Washington, DC 20310 in accordance with Section 278, Title 10 USC and AR 140-370. Opinions expressed herein are not to be construed as official policy nor as official directives. FUNDS for printing have been approved by HQDA, 17 May 1978. DIRECT CORRESPONDENCE is authorized to the Editor, ARMY RESERVE MAGAZINE, DAAR-PA, The Pentagon, Washington, DC 20310. PHOTOGRAPHS herein are all official unless otherwise noted. LOCAL REPRODUCTION of all material contained herein is authorized except for matter noted as covered by copyright. ARTICLES are solicited concerning active Army developments, Army Reserve affairs, consumer information, foreign armies, off duty activities, weapons, policy and other matters of direct interest to Reservists. EDITORIAL OFFICES are located in Room 3E379, The Pentagon. Phone 202-697-2470 or Autovon 227-2470.

POSTMASTERS: Controlled Circulation Rate postage paid at Washington, DC and Louisville, KY 40218. Department of the Army DOD 314, RETURN FORM 3579 to RCPAC, 9700 Page Blvd., St. Louis, MO 63132.

Cover illustration taken from MECHANISMO, published by Pierrot Publishing U.K. and Reed Books U.S. © 1978. Artist: Augus McKie.

KEEPING A STIFF UPPER LIP, SAM PEARSON DISPLAYS INCISIVE INCISORS

PEOPLE

MLLES KENNEDY AND NEWMAN: FEMMES PHYSICALES

From the tables down at **Moreley's** to the place where **Louis** dwells, from the dented bars they knew and loved so well, came wrist wrestlers by the hundreds to a California town, and the magic of their grunting cast a spell. For they're wrist-wrestling champs who've gone amuck, come to Petaluma by bike and by truck, Lord have mercy on Sam's bad luck, pooh, fie, bah. Alas, Lt. **Sam Pearson,** the 1977 World Arm-Wrestling Champ will not be the Wrist-Wrestling champ apparently because he lost his grip; that is, a foul called on a slipped finger cost Sam the title. So, with a fourth place win in hand, it's back to the place where muscles swell.

Two Furman University co-eds recently showed what today's women can do to avoid the pitfalls of a frat house with Saturday night fever by completing the Army's run, dodge and jump fitness course in under 20 seconds. In fact, Cadets **Abby Kennedy** and **Cindy Newnan** can do the shuttle run in between 18 to 20 seconds, put a mile between themselves and pursuers in just over seven minutes — while wearing combat boots — and, if it comes to matching the brutes at Signma Nu, both women can knock off 42 pushups and 44 situps in 60 seconds. Kennedy and Newnan did nothing less than score 500 each on their last PT tests, and that's the max.

CHARYBDIS DROID IN RESERVELAND

Within minutes after enlisting, PFC **Ann Droid** became unusually still. No one responded until Staff Sgt. **Dave Moskowitz** and Spec 4 **John McCartney** noticed Private Droid had stopped breathing. Within minutes the two Reservists began cardiopulmonary resuscitation, but to no avail. A post mortem proved, however, that the former Reservist was actually a womandroid, a form of biotic unit developed on the Syrius planet of Charybdis.

CONNELL DINES AL FRESCO

The field soldier has always had his rewards: travel, adventure, excitement, strange new worlds to explore, exotic cultures, mysterious customs, and, ah, *la cuisine d'la monde* — the food of the world. It's a wonder recruiters don't have to fight off adventure seeking recruits more often. Maybe they would if more young men and women knew the advantages of service life. Spec. 4 **Jim Connell** of the 375th Field Depot could certainly convince them. This year, at Army expense, Connell was able to dine *al fresco* on the finest exotica Fort Rucker, Alabama had to offer. For a gourmet, *c'est la pits.*

PEOPLE

REDINGTON AND HIS BARNYARD BEAUTY

LEARNING THE LONESOME SOUNDS OF GAS-MASKED GARBLE

PRETTY SOON RADIAL TIRES BLOOM

Gardeners leaving the dark months of winter can take heart from what Master Sgt. **Tony Lorino** has shown can be done with a green thumb and fluorescent light. Without stretching the story: barber Lorino planted a 3-foot rubber plant in his hair emporium 14 years ago. The little plant was then less than three feet high. Now that little rubber plant is 40 feet long. Lorino's explanation for his horticultural success is simple: "Add water and let it alone."

With a gobble-gobble here and a gobble-gobble there; here a gobble, there a gobble, everywhere a gobble-gobble, old lieutenant **Georgie Stubner,** ee-igh, ee-igh, oh! And in his mask he said, "Oink, oink," ee-igh, ee-igh, Hup. 'Cause that's the way he snugs it up, ee-igh, ee-igh, Ugh! And Private **Amy Miskowiec** gobble too, ee-igh, ee-igh, oh! With a gobble-gobble here, and a gobble-gobble there, here a gobble, there a gobble, everywhere a gobble-gobble, what a gas the Army is, ee-igh, eei-gh, oh?

Even with renowned chief chicken handler Sgt. 1st Class **Ken Redington** backing the bird up, **Charlie's Angel,** the barnyard beauty entered in the Third Annual National Chicken Flying Contest by the 300th Military Police Command, turned out to be a turkey. There, before Chicken Little, Mother Goose and nearly the entire town of Plymouth, Michigan, assembled, Charlie's Angel could do no better than fly 12 embarrassing feet — 2 forward and 10 down. After flopping, "C.A." was whisked away by the MPs for what they called "re-training." However, according to Capt. **Henry Campbell's** chicken doodles, our fowl reporter on the scene suggested that might mean a bullet for the pullet.

Staff Sgt. **Barbara Tremelling** and Spec. 5 **Henry Thomas** of the

IF ONLY THEY WERE DEFIBRILLATOR DISCS

3345th Army Hospital were learning how to use defibrillator paddles when a disinterested disco dancer heard the beat. Why they could plug their zapper into a monster amp, turn on the dry ice machine and zonk back to life with **Donna Summer.** Some might call it shocking, disco D.J.s would call it "Live and More" and doctors would call it unlikely.

LETTERS

Wrapped In Red Tape

Sir: I enjoyed reading your article on the short supply of doctors in the Army and Army Reserve in the May-June issue, but found you left out a major factor in low recruitment: that of the long and protracted delay from the time a physician applies for commission until he receives confirmation of his appointment. Presently this delay is a year or better. Would any but the most die-hard put their carrier in limbo for a job that offers lower pay for that length of time?

Having gone through the paperwork of twice applying for a commission as a Army Reserve Nurse — another area of short supply — and being turned down each time for "unstated reasons" (exempt from Federal Freedom of Information Act?), I would say the Army is lucky to have any competent professional staff in the medical/nursing area at all. Perhaps instead of dreaming up better inducements to enter the Army, more emphasis should be given to making full use of the competent professional help already in the Army but frozen into non-professional enlisted jobs.

Roland Riemers, RN
Minot, N.D.

The Freedom of Information Act entitles you to see your file and any correspondence or reports in it. "Unstated reasons" won't do.

Correcting Twisted Views

Sir: I enjoy receiving your magazine and appreciate finally getting my address corrected, but I do have a question. What or where is the body attached to the foot and leg shown behind the girl in the picture at the top of page 16 with the article "Treasure Hunt Part II" of the May-June 1978 issue?

CW3 Emery E. Harless
Washington, D.C.

Odd you should mention that, because the leg is attached, quite remarkably, not to said same girl, but a hidden male.

Shot In The Arm?

Sir: I would like to comment on your article entitled "Doctors: A Short Supply." Modular training for Reserve medical units is, in my view, a disaster. It has destroyed unit integrity. Nor can Reserve physicians solve the medical officer shortages of the active Army. If the mission of the Reserve is, indeed, to be ready, then medical officers should be allowed to train during annual training at Army teaching hospitals, where they can upgrade their own specialty skills. Since there are not that many of them (the article points out that only ⅓ of all authorized slots are filled) they could easily be integrated into Army teaching hospitals with some reasonable planning.

A physician should also be permitted to enlist for three years instead of six, as presently required. This would enable us to recruit physicians in residency training programs which last three years. Many physicians in post graduate specialty training programs are reluctant to sign up for six.

The requirement that a physician complete 12 months of internship before being commissioned as a medical officer is also counter productive to recruitment of residents in specialty training programs. A physician is capable of serving as a Reserve medical officer during his internship, at which time he already is a graduate physician.

More and better medical short courses should also be made available to Reserve physicians. This is an attractive feature of the Reserves, but insufficient spaces are made available.

Col. Elliot F. Ellis, M.D.
Buffalo, New York

The Lone Ranger He Ain't

Sir: As an administrative supply technician and an E6 in the Reserve, I deplore the apparent lack of manpower and funding which permitted *Army Reserve Magazine* to be left in limbo for the last six months. My subscription's delivery is spotty at best (and I am the individual who posts changes of address to the DA Form 1379) so I relish each issue. The articles, features, and art are *well above average*, but I am appalled that the whole book has been put out by as few as three, or fewer, individuals. If somebody up there really wanted to save some money, he might arrange personnel and financial priorities to assure the prompt, continuing publication of *Army Reserve Magazine* and the cessation of some of the other stuff with which we are inundated. The magazine's humor and information are to be preserved and promoted.

William S. Stokes
West Palm Beach, Florida

Better, Faster, Smarter

Sir: I just read your article entitled "Proper Women's Work" and find it hard to believe that the commanders of combat support units were so quick to label women in their units inefficient. I just completed serving 2.5 years in a tactical signal unit, and the facts were different. Women were promoted faster than men. Female soldiers learned faster, retained procedures better, had higher GCT scores and cooperated better with their superiors than male soldiers. Many of us were promoted to sergeant in less than 3 years, while the average male took 3.5 to 4 years. All of us women had to be high school graduates to enlist, but the men didn't. As for the physical aspect, we women could put up a 50-foot antenna just as fast and efficiently as a group of men without any help. The stuff about women being slower may be the slightest bit true, but we can do it just as well or better than male soldiers if we're given the chance.

Sgt. Kathleen A. Mack
Chicago, Illinois

Here All The Time

Sir: I am a Reserve officer on extended active duty and currently assigned to Patterson Army Hospital at Fort Monmouth, New Jersey. Until a Reservist on two weeks active duty showed me your March-April 1978 issue, I was not aware that the magazine existed. It appears to be an excellent magazine and I'd like to receive it regularly.

Capt. Robert A. Claytor
Eatontown, N.J.

Sir: I have just seen my first copy of your magazine, and I would like to compliment you on it. I was enthralled with the articles you presented about the Reserve Component units, but more specifically I was amused by the tone in which you presented them. The mixture of humor and seriousness was good. Keep up the good work.

SFC Stephen L. Brown
Fort Meade, Maryland

Sir: I recently had the opportunity to read a copy of the *Army Reserve Magazine*, when a neighbor of mine who's a career Army officer loaned me a copy. I was very impressed with the publication and would like to acquire a subscription.

Sgt. K. T. Wilhite, Jr.
Indianapolis, Indiana

Copies of Army Reserve Magazine are supposed to reach all members of the Army Reserve and are available to persons interested in military affairs on a catch-as-catch-can basis.

How About "Big Red 2"

Dear Sir: Upon my return from a trip to the Pentagon, in August, I found my May-June 1978 issue of the *Army Reserve Magazine* had arrived. While it was an outstanding issue and generally well put together, I would like to point out that you used an improper designation, by calling the 101st Airborne Division (Air Assault) the 101st Division (Air Mobile). Many people in the active component, however, make the same mistake.

In case you are curious about my connection, I am the USAR Plans, Policy and Training Advisor with the 101st Airborne Division (Air Assault). I have been attached to the Division for the past three years and one of my functional responsibilities is that of ABSAT Coordinator. By the way, HQ DA recently approved the Division's Air Assault School, which is open to Reserve personnel participation; and, the awarding of the Air Assault qualification badge is DA approved.

Lt. Col. Jay W. Woodbeck
Clarksville, Tennessee

Army Reserve Magazine (Chairborne), appreciates being corrected and wishes to point out that it has reverted to the designation Army Reserve Mag (-).

Issues, comments and complaints should be addressed to The Editor, ARMY RESERVE MAGAZINE, Department of the Army DAAR-IO, Washington, DC 20310. The editor reserves the right the edit letters.

AFTER YEARS OF DISUSE, THE CANTEEN CUP IS BACK IN BUSINESS FOR HEATING UP A WHOLE NEW LINE OF G.I. CHOW

ACTIVE

Luckies May Have Gone To War In Green, But

There'll Be No Dirty Old Smokes In These New "C" Rations

"Ding-dong", sang the happy GIs, "the can is dead; the wicked, heavy can is dead." Indeed, the old "C"-rat can is dead, and so are the morsels that left many GIs cold: icky eggs, ham and limas and tasteless white bread.

After years of research and a few false starts, the Army is ready to introduce an entirely new light-weight line of tasty combat, or "C" rations. The new meals are either freeze dried, or precooked inside plastic and foil pouches, which means the new meals can be eaten cold, heated in a canteen cup full of water or warmed on an engine manifold.

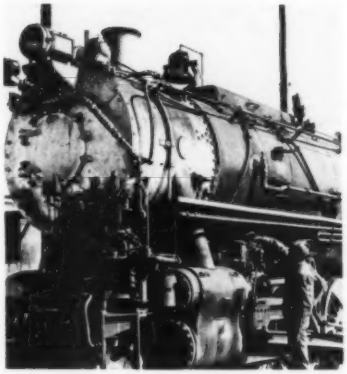
Pigs In Space. Many of the new menus were dreamed up by NASA astronauts, who took the first samples into space, others by fast-food junkies.

There are 12 complete meals in the lineup: pork patties and pineapple, ham and chicken loaf with strawberries, beef patties with beans and tomato sauce, beef slices with peaches, beef stew with fruit mix, franks with beans in tomato sauce, diced turkey with gravy and potato patties, diced beef with gravy and beans in tomato sauce, chicken-a-la king, meat balls, ham slices, and chicken loaf. Crackers are still included and so are peanut butter, cheese spread, cookies and cocoa.

The high energy desert lineup includes brownies, fruit cake, chocolate nut cake, orange nut cake, cherry nut cake and maple nut cake. Five different accessory packs contain the usual coffee, cream, sugar, salt, toilet paper, gum, and match collection, but variations also include catsup or gravy mixes and caramel bars, chocolate fudge bars, coconut bars, jelly bars and vanilla fudge bars but, alas, no smokes.

In well over 25,000 tests, soldiers consistently preferred the new meals both hot and cold to the old "C"s. Troops appreciated that the new meals weigh only half as much as canned "C"s, preferred the variety and liked being able to stuff meals into their pockets and packs without worrying about falling on their cans.

Procurement is presently underway for 24 million meals at a cost of $65,400,000 with delivery expected to begin in 1979. But first, troops have to eat up all their canned rations. Ham and limas, eggs and white bread may be sent to CARE.



But They Can Always Build Their Own In HO Scale

Since the beginning of American railroads, the Army has always been there: surveying rights-of-way, building bridges and fording rivers. But no more. On September 30, 1978, the last active Army rail unit serving the 25-mile Fort Eustis, Virginia railroad was deactivated. Five civilians now operate the little utility rail line, where once 34 soldiers rode the high iron. Far away, they heard a lonesome whistle wail.

H-A-Double R-I, S-O-N Spells Wherewe'reat

The Army recently announced that Maj. Gen. Benjamin L. Harrison had taken command of Fort Benjamin Harrison, Indiana. This action immediately set Pentagon wags to speculating how far this trend could be taken. Henceforth, would generals assigned the command of Army posts take the name of the dignitary for which the post was named, and would this really save money as commanders moved from post to post or pillar to post, as the case might be? One thing is for certain, agreed Army gadabouts, even the most involuntary of volunteers would know the name of the post CO at inspection time. Probably.

Cap On The Side With Gravy and Grits

The "saucer cap", or enlisted Army service cap, was last seen going the way of ham and limas, but it's now reported that, although the cap hasn't been issued to new troops since October 1977, it is not gone. The "saucer" is still being issued to honor guards, bands and other special units. (MPs, however, continue to wear their very own special headgear, close to the "flat hat" but different.)

Well maintained saucers may still be worn, provided all signs of food have been removed, but not in formation. Otherwise, the highly unpopular hat may be unceremoniously chucked.

Almost Annual Revised And All New Officer Efficiency Reports

It's time again for new officer efficiency report forms. Beginning on October 1, 1979, inflated reports will be eliminated for all time by using a rater, an optional rater and senior rater instead of today's rater, indorser and reviewer. The rated officer will be able to participate by describing his own duties and the rater will participate by filling out three forms: DA Form 67-8, essentially a revision of the current form, revised eight times since 1967; DA Form 67-8-1, a support form for a discussion between rator and ratee; and DA Form 67-8-2, a tracking form that will be used to record the rating history of rating officers. Officials say the new report system will "increase administrative accuracy."

In The Never Ending Search For New Trendy Looks, Fashion Skirts The Law

Although armed forces recruiting stations haven't felt the trend, the uniform look is, once more, in.

The uniform look is supposedly part of an overall, "menswear" trend in women's clothing, but in many cases, the look is too close to real for legal comfort.

Do Not Pass Go. It may seem nit-picky, but Title 18, US Code, Section 702 says: "Whoever, in any place within the jurisdiction of the United States or in the Canal Zone, without authority, wears the uniform or a distinctive part thereof or anything similar to a distinctive part of the uniform of the armed forces of the United States . . . shall be fined not more than $250 or imprisoned not more than six months or both."

The key to the whole matter of legality or illegality is the word "distinctive." And just what is distinctive? According to the courts and Army Regulations, all pieces of headgear, badges, US Army and Engineer buttons, medals, decorations or other insignia adopted by the services including the gold or black braid on officers' coats and pants are distinctive *when attached to US Army uniforms.*

Field or fatigue jackets, all by themselves, are not distinctive parts of the uniform, nor is the green uniform coat if the buttons and all other distinctive patches are removed. Does the US Army patch on the pocket of a field jacket make the jacket distinctive and wearing it illegal? Yes. Does that mean a sister or bother or son or daughter who's not in the service is violating the law if found wearing your old, torn up fatigue jacket? Unfortunately, yes, it does, if distinctive insignia are still attached.

Because of last fall's fashion trend, the Army's Institute of Heraldry in Alexandria, Va. has prepared warning letters for some of New York's major retailers, pointing out that their "uniforms" are violating the law.

What Happened to Ultrasuede? It's been reported that much of the military look is genuine with the products coming from jobbers who buy military surplus, seconds and rejects, purchasing them for peanuts and selling them for real money.

Although most military items are manufactured by certified firms that sell only to the military, some items are contracted out to smaller companies that produce military goods as a sideline.

At least one New York clothing manufacturer has admitted copying medals, but notes that the products are not exact replicas because: "There

AN ALL-OKAY "LEGAL" OUTFIT

is not as much detail and no precious metals used."

On the other hand, some fashion medals are for real. One Fifth Avenue shop in New York said it purchased decorations on Porto Bella Road — A British flea market — in London and that most were originals. The sale of American military medals or reproductions is absolutely illegal.

According to one designer, the military look is a bust. "Manufacturers can be creative with this look if they try, but by using the decorations people have suffered for is in questionable taste."

"Stores, manufacturers and designers are throwing actual medals in molds, making replicas and marking the prices way up," claims jewelry manufacturer Joseph Mazer, who says there is a vast market for serious collectors of medals.

LOOKING "ILLEGAL" IN DISTINCTIVE PATCH

In *Women's Wear Daily*, Mazer was quoted as saying that he thought the trading in medals was illegal and in poor taste: "I told major fashion publications that came in here wanting American medals that I was putting my foot down."

Many surplus stores and retailers are reluctant to discuss their sources of supply for military items, but nearly all agree that the military look for high-fashion trend-setters probably will be short lived.

"This whole thing will be dead in a month," says one garment district watcher, "but the trend will probably be continued in nationwide department store chains for as much as a year."

What does it all mean? Only that 18-year-olds may want to look like soldiers, but they certainly aren't rushing to recruiting stations to get paid for it.

You Are What You Wear, Or Unfair Bag Can Cover All

The Army Uniform Board has approved a new shirt for soldiers and agreed to castoff khaki by 1985.

By early '79 both female and male soldiers will be able to buy a new light gray-green uniform shirt for wear with greens, and new soldiers will be issued gray-green shirts by 1980.

The Army has opted for the sensible look the Air Force adopted several years ago. Officers will wear only rank tabs on cloth shoulder boards and enlisted people will wear shinny brass rank insignia on their collars.

The men's khaki summer outfit will be gone by 1985 to be replaced with dark service trousers and a gray-green shirt, a variation on the uniform combination being used by both Air Force and Marine Corps.

No Woolie Pully. Although the Uniform Board bought the Air Force-like shirt idea, it vetoed the Army's adoption of the British Army's heavy wool pullover sweater being used by the US Marine Corps.

The women's clothing bag has also changed. As of October 1, 1978, the women's green service cap is no longer being issued, except to MPs and some other selected soldiers, making the black beret the official hat for women soldiers, except the Nurse Corps. The beret, however, is now being "redesigned for a better fit."

Compared to last year's prices, the cost of outfitting a female soldier has gone down $143. It now costs only $580 to clothe a female recruit thanks mostly to the substitution of a single coat for the old overcoat and separate raincoat dual issue.

That little savings will amount to a lot of money, if the Army's current plans unfold. The number of women in green is expected to increase from today's 57,300 to 92,300 by 1984.

THE CLUTTER-FREE LOOK IS COMING IN ARMY UNIFORMS

As Press Time Approached, The Official Department of Defense Position Had Not Yet Been Stated

The President's Commission On Military Compensation: Major Changes Possible

The President's Commission on Military Compensation pulled no punches when it issued its report last spring. As chairman Charles Zwick said in a cover letter to President Carter, "The Commission recommends substantial revision of the present compensation system."

The Commission recommended sweeping changes for not only the structure of military compensation but also the philosophy behind it. The report said the present system isn't perceived as fair by the American public, isn't especially fair to many service personnel, and isn't cost-effective for the military itself.

Though the Commission would axe one of the military's more valued benefits — the 20-year retirement system — it would also beef up or create other benefits. "Compensation should be more flexible because the armed services are now competing with private and other public employers," the report said. "As labor market conditions change, military manpower managers must be able to adapt to these changes. The military pay system must also be able to adapt to shifts in force-manning requirements."

Inequitable, Inhibiting, Ineffective. But the key issue, the report said, is retirement. Retired pay jumped from $1.2 billion in 1964 to $9.2 billion in 1978. The Fiscal Year 1978 figure represents 8 percent of the Defense budget compared with 2 percent in fiscal 1964. But the Commission said the "sheer magnitude" of the costs was not the only reason for recommending changes.

Calling the current system inequitable, the report said military retirement provides significantly better benefits than most public and private sector systems. The Commission examined the percentage of after-tax work income replaced by Social Security and retired pay under various systems and found military members with 20 years of service had 95.9 percent of their active duty income replaced, compared to 62.4 percent for Civil Service workers, 66.6 for New York State employees and 58.3 percent for food processors. Only police and fire department systems (95.7 percent) were comparable to the military.

The Commission also cited several internal inequities of the 20-year system. They noted that persons leaving the military before 20 years of service receive no retirement benefits. Further, because retired pay is based on final basic pay rather than average basic pay over the years, retirees with similar work histories receive widely varying benefits. Mandatory retirees, who cannot select a retirement date, are therefore penalized.

Locked In, But Unworthy. The report said the 20-year system inhibits the management system, "locking in" some people whose separation might be in the best interest of the service. Few people with nine or more years of service leave the military because retirement

benefits will be lost. On the other hand, members with 20 years service and mandatory retirement looming lose incentive to stay in the military, believing they should start a second career before they're too old. Studies have shown that military retirees, especially those with combat backgrounds, earn less than comparably aged and educated civilian workers. And while 20-year retirement is highly valued by careerists, the Commission found it has little value as a recruiting or retention device for young people, who prefer immediate income.

The Commission's recommendations create a whole new ball game, although current retirement policy would continue to apply for those with four or more years of service, those serving their second enlistment, or those serving beyond their initial period of obligated service at the date of enactment.

The Commission recommended that old age retirement annuities begin at age 55 for 30 years of service, age 60 for 20 to 29 years of service and age 62 for 10 to 19 years of service. The annuity would be based on the three years in which the member's basic pay was highest. At age 65, or age 62 if early Social Security retirement was chosen, Social Security benefits would be reduced by 1.25 percent for each year of military service — up to 50 percent. This formula would yield a 20-year retiree with about 65 percent of his after-taxes active duty pay, compared to today's 95.9 percent, and it would yield about 80 percent for 30-year retirees.

Deferred Compensation Fund. The Commission would also establish an interest-bearing deferred compensation trust fund for members with over five years of service. The Government would contribute an amount equal to 20 percent of basic pay for those in their 6th through 10th years of service, 25 percent for years 11 to 20, 15 percent for years 21 to 25 and 5 percent for years 26 to 30.

The accumulated account would belong to members completing 10 years of service. A portion of this money would be available for withdrawal while a member was on active duty, and the fund would be taxed only after withdrawal. The system, the Commission hopes, would encourage persons in their first enlistment to stay until their 10th year of service. The higher Government contribution after that time would encourage them to stay on active duty.

The end result of all this would be higher continuation to 10 or 12 years of service and lower continuation rates from 10/12 years of service to 20 years, with little overall effect on the force's average age. A higher percentage of 20-year members would be expected to stay on than under the current system.

The Commission predicted budget outlays would initially increase, with large savings not expected until the year 2000, when savings from retirement would offset increases in deferred compensation, severance pay and active duty pay.

THE DECISION PROCESS

No Salary System. The Commission recommended against switching from the current pay and allowance system to a salary system. In one of its more controversial recommendations, the Commission called for application of supply-and-demand principles in issuing pay raises. Stating that "the automatic annual adjustment of the levels of all personnel without regard to manning problems does little to introduce efficiency into the system," the Commission suggested giving substantial authority in this area to the Secretary of Defense. Under the Commission plan, the Secretary would be permitted to propose the distribution of the total (Defense) pay raise amount by pay grade, by occupation, by service, or by other appropriate class of personnel based upon the "relative manning situation" of each class.

The Commission recommended certain limitations on this flexibility. In an inflationary year, every service member would receive some increase in regular military compensation (RMC). The Commission did not, however, detail its suggested limitations, saying that "practical considerations" would insure "moderation and fairness."

More Differential Pay. The Commission called expanded use of differential pay "critically important" to more effective force management. Differential pay is pay added to RMC for selected groups of military personnel based on the special nature of their occupation, location or type of duty.

A proposed Variable Basic Allowance for Quarters (VBAQ) would alleviate housing inequities, the Commission said. The plan would adjust the BAQ whenever monthly housing costs for a locale exceeded the national average by more than 10 percent. Unmarried persons and families would receive appropriately varying amounts. However, the Commission noted that available data on community housing costs are not adequate for setting VBAQ differentials, and urged a study be made.

The Commission recommended a time-in-grade (TIG) system to reward outstanding personnel. A TIG system would provide rapid pay increases during the early years in grade, with a leveling out in later years. The Commission also suggested that the pay table provide the greatest income increases to junior personnel, thereby motivating them to stay in the service. During the transition from the current "years of service" system to the TIG system, no military members would be subjected to a pay cut.

Secretary of Defense Harold Brown called the report a "responsible and thorough review" and said it "leaves no doubt that the present compensation system can be improved."

Brown directed a review of the report by the military departments and said he would propose legislation by the beginning of the next Congress. Said Brown, "I emphasize that such legislation not only will take account of improvements for the future, but also will safeguard the legitimate expectations of past and present members of the Armed Forces."

Saga of the MICV Continues as IFV/ICV M-2, M-3

Fighting Machine Stands A Fighting Chance

The money for the Army's long-awaited infantry fighting vehicle is back in the budget, and it looks as if the first production model will be delivered by May 1981, 13 years after the project began.

Early last year, it appeared that the $370,000-per-copy, 23-ton machine had been scraped again, but Pentagon pessimists were wrong, and Congress authorized $34 million in long lead time money.

Mucho MICV Mouse. The infantry fighting vehicle, or IFV, formerly known as the mechanized infantry combat vehicle, or "MICV", has had a long, checkered and often difficult to follow history.

The project began in 1963, as MICV '65, was supposed to provide Army infantrymen with a fighting machine by 1967. That program was cancelled in 1966. The 27-ton carrier that got the ax then had less mobility than the Army's current and aging family of M-113 personnel carriers.

In 1966 a new task force was formed to study requirements, and in 1972 work began on a MICV scheduled for production in 1979. This 22-ton version, armed with a 20-mm gun in a one-man turret, carried an 11-man squad, or a total of 12 men. A 25-mm version was supposed to come later.

Et T-BAT II Brute? During 1974 the Army had its new scout vehicle program killed and decided to use the MICV chasis as a scout with a two-man turret, 25-mm gun and a TOW antitank launcher mounted under armor outside.

By mid-summer '76, the Army found itself developing three separate vehicles: a 20-mm MICV for production in '79, a 25-mm MICV for later production and a two-man 25-mm gun and TOW-armed turret scout vehicle. About this time the Secretary of the Army called, "halt," and another task force was put together to restudy requirements for both the infantry vehicle and the calvary scout. Somehow it seemed reasonable that three separate programs were not necessary.

Sure enough, the task force recommended developing a single vehicle for both the infantry and calvary using the same chasis and same two-man, 25-mm-gunned, TOW-armed turret. On November 3, 1976, the Secretary of the Army bought the idea, and MICV became the MICV-TBAT II, [*T*ow *B*ushmaster (25-mm gun) *A*rmored *T*urret-Two man] or, for simplicity's sake, the IFV (Infantry Fighting Vehicle, M-2) and CFV (Calvary Fighting Vehicle, M-3).

Rough Terrain. Yet, even though Congress mandated in Public Law 95-79 that this vehicle be available for issue in May of 1981, by December 1977 the Office of Management and Budget had cancelled the program and, as late as last spring, another task force was at work studying the whole IFV program. The possibility of going back to square one was very real.

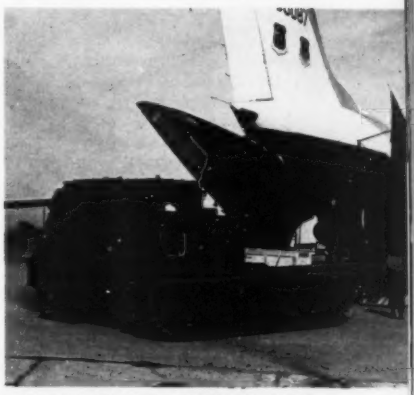
Between 1976 and 1977, Government Accounting Office investigators had examined IFV performance. They weren't impressed. The GAO's final report concluded that the IFV, although four times more expensive than the M-113, was not much of an improvement. The GAO cited the incompatability of the IFV and the XM-1 tank in terms of speed, production, size, shape and vulnerability. The report found the IFV's design complexity, crew functions, lack of standardization, engine and transmission difficulties, extra weapons, noise, smoke, lack of chemical protection and tactics all good reasons to say the program was not cost-effective. The Army disagreed. Vehmently.

The Machine Today. Eight prototype IFV and CFV machines are under construction, and troop tests are still going on inside developmental turrets built during the TBAT II stage of development.

The machines under construction are being built with all-electric turrets, designed to accommodate either a 25-mm chain gun or 25-mm self-powered gun, one of which is soon due for selection.

Development of the seldom-mentioned General Support Rocket System carrier, a derivative of MICV-IFV technology, is also moving along briskly.

The carrier bears close watching because of its large potential. It shares many IFV components as well as the same power pack as the IFV; in fact, they're completely interchangeable. The carrier also offers the three-man crew complete armor and chemical protection, since all controls are in the armored cab.



DERIVATIVE ROCKET CARRIER ROLLS OUT

With a need for more common parts to reduce supply problems, the carrier may prove ideal for use as an antiaircraft missile carrier, resupply vehicle, maintenance machine, command post, ambulance and armored fuel carrier.

Whatever applications are found for the carrier and IFV family, it's certain the total costs of these battlefield machines will be high. With a basic IFV capable of carrying a crew of three and six-man squad costing $370,000 in 1978 dollars, it's easy to envision mechanized divisions costing billions.

Even If The Proper Name Is ARTEP:

Staging Horror Shows Is Just Good Medical Training

It was early morning in Heilbronn, West Germany, as the sun rose casting a hazy glow on a group of medics working on their ambulances.

Everything was routine until the radio cracked: ". . . transport helicopter . . . crashed. . . ."

Near the flaming hulk of the downed chopper, the medics found the injured scattered like battered toys with crushed chests and skulls, broken arms and legs. Bones jutted through torn and burned flesh, while the less seriously injured wandered about in shock.

Staged Horror. The scene could have been real, but it wasn't. Instead the makeup and staged injuries were part of a realistic training evaluation being undertaken by medics of the 42d Medical Company (Ambulance) located in Nuernberg, Germany.

This true-to-life training is called ARTEP (Army Training and Evaluation Program) and represents a revolutionary change in the Army's training system.

How It Works. ARTEP is a combination training/evaluation program that provides critical combat training objectives to units. It integrates both training and evaluation, with a focus on what should be done tomorrow to correct training weaknesses identified today. This is accomplished by giving the leader/evaluator training objectives (tasks, conditions, and standards) which include the critical combat tasks in which a unit must be proficient, the conditions under which tasks must be performed, and specific standards. With these objectives and other information found in ARTEP training and evaluation outlines (T&EO), the leader at each echelon can plan, conduct and evaluate his training continuously. These training objectives are based on the unit's Table of Organization and Equipment (TO&E), the mission or missions of the unit, and the threat environment in which the unit will operate in combat. This new system of "training as we will fight" requires a realignment of many training procedures.

Most misunderstood about ARTEP is the difference between the ARTEP concept of evaluation and previous, traditional testing methods. In order for the Army Training System to function effectively, the collective training program of that system, ARTEP, must embrace the concept that it is designed solely as a tool for the trainer/leader's own use for the training/evaluation of his unit. Diagnostic evaluation is an aid to the trainer in determining his unit's day-to-day training status and takes place continually throughout the training program. Resources previously required to test a unit can now be better employed to train the unit.

The real value of ARTEP is the ability to use it in the day-to-day internal training/evaluation of units by the trainers within the unit. The trainer's truest picture of a unit's ability to accomplish any given ARTEP mission/task is created from the daily use of ARTEP. This picture is developed systematically and is continuously updated each time the trainer uses the ARTEP document. Daily internal training is the least costly in terms of resources and involves the trainer/leader most capable of influencing the training proficiency of his or her unit.

Long Looks. The 42d's ARTEP evaluation was three days long. Early on the first day, the unit received orders to move from its home near Nuernberg to a field site close to Heilbronn — a six-hour motor march creating an enormous, but realistic, supply problem.

When the company approached the site, it stopped and ordered a search party to check the area for simulated mines, booby-traps, and enemy troops. The group secured the area and a squad was sent back to lead the main body of the company in. Tents were pitched, and the ambulances refueled, ready to move out again.

The next morning, ambulance teams were sent to aid stations to pick up patients. "We observed and graded the medics on how well they loaded their stretchers into the vehicles, "said Capt. Frank Blakely, chief evaluator. "We also looked at how quickly they arrived at their drop-off points."

When it wasn't practical to demonstrate certain tasks, such as inserting intravenous needles, the soldiers were asked to explain the procedures.

A mass-casualty exercise was staged on the third day as the company was ordered to a vineyard near Oberstenfeld, 25 Kilometers (about 15 miles) away, and supposedly the location of a helicopter crash. There the medics found their casualties, who were wearing special rubber make-up that comes looking like cuts, compound fractures or even serious eye injuries. The "victims" were treated, tagged, and taken to the 5th General Hospital in Bad Canstatt.

THERE'S NOTHING QUITE LIKE A BLOOD-CURDLING SCREAM TO MAKE IT SOUND REAL

How'd They Do? The members of the 42d appeared proud of their effort. Said Lt. Doug Stamour, the executive officer, "It was their first external evaluation, and they really wanted to do well."

Tough and realistic, yes, but this unit clearly demonstrated during its first ARTEP evaluation that the systematic approach to training really works.

THE LOOKS ON THE FACES OF STRETCHER BEARERS AND MEDICS GIVE EVERY INDICATION THIS IS A REAL SITUATION, ALTHOUGH IT IS NOT. IT IS, HOWEVER, ABOUT THE MOST REAL TRAINING POSSIBLE AND IT SHOWS.

AS FAR AS THE 357TH MP COMPANY IS CONCERNED, THERE'S NO REASON WHY COPS IN GREEN SHOULDN'T HAVE FUN TOO

HAPPENINGS

Wait Til The WW I Vets Hear About Mary

Tech. Sgt. Mary E. Strader retired from the Air Force on Oct 31, 1978 at the tender age of 71. How that came about is a mystery, but absolutely true. Strader enlisted in the Woman's Army Corps in 1944 at the gracious age of 37. She was released from active duty in 1948 and almost immediately joined the Air Force Reserve. In 1962, she was recalled to active duty for the Cuban missile crisis and remained until Halloween 1978. Strader says the military is a good career, and the Air Force has kept her young: "I guarantee you my career has kept me a lot more active than most people my age."

Could be, but short of measuring activity consider: the average Vietnam vet is 31.9, the average Korean War vet is 48.7, the average World War II vet is 58.2 and the average World War I vet is 83. If that's not enough, consider there are still 296 Spanish-American War vets kicking around. Some people just age slower than others.

On The Lookout For Experienced Aviators

Reserve recruiters missed their chance to land an experienced aviator by not getting near enough. With a growing shortage of experienced flyers and with more leaving the service every day, aviators may soon become a priority recruiting item. Of course, some will never want to join the Army Reserve. Maybe that's why USAR recruiters in California passed up H.R.H. Prince Charles, The Prince of Wales. The active Army and Guard were on hand, but reportedly declined to offer the Prince a part-time job.

Congress has approved $25 million in Reserve bonuses with the majority, $17.7 million, slated for Army Guard and Reserve units scheduled for early mobilization.

Bonuses will be paid in installments or can be used for tuition aid. For example: A 6-year enlistment is worth $1,500 or $2,000 in tuition aid; a 6-year reenlistment is worth $1,800 or $2,700 in tuition aid or half for a 3-year reenlistment. If a new Reservist chooses a cash bonus, he or she gets $750 on completing initial training and the rest over three years. A reenlistment is handled about the same way — half cash on the barrelhead with the remainder spread out over the term of the enlistment.

Large Shadows Missing From The Ground Mean The Plane Is Gone

The Army's Cops Maintain A Perfect Record: No B-52s Stolen Yet

It isn't that Staff Sgt. Ronald Pretzer, the former NCO of the 357th Military Police Company, didn't like the Army Reserve. It's just that he felt the Saginaw, Michigan Reservists could learn a lot more by joining the Air Force.

Nonetheless, visitors to Wurtsmith Air Force Base, a Strategic Air Command installation at Oscoda, Mich., might wonder whether they've stumbled on to the wrong base when they see who's guarding the B-52s. This spring the 357th Reservists began a program of spending some of their weekend training time with the 379th Security Police Squadron, the folks who normally keep Wurtsmith under control.

The Reservists have been training at Wurtsmith roughly every other month. The MPs pair up with Air Force policemen in guarding the base gates, manning the dispatcher's desk and riding automobile patrols. When not pulling a work shift, the Reservists receive classroom training from Air Force NCO's on such topics as search and seizure, use of force, crime scene protection and traffic accident investigation.

Bombed Out Training. Staff Sgt. Pretzer suggested the program after ideas were solicited on how to increase the troops' interest in training. Pretzer felt giving Reservists a chance to do real MP work would solve the problem — but it also created one. No National Guard or Reserve training sites in Michigan could provide such work. Undaunted, Pretzer suggested Wurtsmith, and security police officials responded enthusiastically.

ONE MEAN CAT OF A GUARD DOG

Since that time, the Air Force connection has blossomed considerably. On occasion, wives and children have accompanied some of the troops to Wurtsmith, with families staying in their personal campers at an Air Force recreational area or in nearby motels. Families have also been allowed to observe training, when their presence didn't interfere with work.

The 357th is one of 27 units in the 300th MP Command, which numbers over 1,400 soldiers in 13 cities of Michigan, Indiana, Illinois, Missouri and Iowa. Wartime missions of the units range from operation of prisoner-of-war camps to straight MP work: corrections and criminal investigation. And don't try to steal a B-52 from these guys, either.

It's Something Like A Superman Act, But There's No Phone Booth

Three Minneapolis policemen have a change of uniform and a change of duty one weekend a month when they conduct a law enforcement training course for over 80 Army National Guard, Marine Reserve and Army Reserve personnel.

Staff Sergeants Edward Zentis, a former Marine and a police lieutenant investigator, and Morris Arvidson, a police sergeant, enlisted a few months ago specifically to team-teach the law enforcement course. Both were recruited by Sgt. 1st Class Ben Soule, a 15-year veteran with the Army Reserve, who taught the course until recently. Soule is currently with the Minneapolis-St. Paul International Airport Police force, after serving 27 years with the Minneapolis Police Force.

The third instructor, Sgt. 1st Class Jeff Grates, a Minneapolis police sergeant with 10 years experience, has been in the Navy and Army Reserves for 14 years. Grates moved from the 257th Military Police Detachment to take over the teaching vacancy left by Soule.

According to Arvidson, Soule

didn't have too difficult a time in recruiting him back into the service. "I always liked the military and I had reached a point in my life where I had more free time to spend in the Reserve," he explained.

Smarter Cops. Police forces are starting to require college degrees when hiring policemen. This means that there'll be more teaching positions opening up at the college level. "Teaching this course will give me a chance to see if that's something I would like to get into," Arvidson says. "Teaching is a tremendous learning experience for the instructor, too."

The 5042d USAR school's course consists of 96 hours of instruction, which Soule, the former Minneapolis policeman, compares quite favorable to civilian law enforcement training

"The basic rudiments and fundamentals of law enforcement and criminology that we teach in this military police qualifications course are of little or no contradiction to civilian police study," says Soule. "We closely simulate civilian methodology and procedure."

To graduate from the course and fulfill requirements for their military police slot, the participants must pass 96 critical task skills, 80 of which are taught in the classroom at Fort Snelling. The other 16 are dealt with during the trainees' two weeks of annual training.

Sorry, No Riots. "Fort Snelling does not have a firing range where the trainees can qualify for firearm marksmenship," Soule notes. "Nor do we have the facilities here to train for riot control, tear-gassing procedures and other skills necessary for military police."

In addition to the three experienced instructors, the course offers quite a collection of professional talent brought into the military to teach different areas of the course. These experts give lectures and demonstrations and are on hand to offer professional advice, and the Judge Advocate General's office conducts mock military trials.

The textbooks and manuals have been changed and updated, so students get the most recent police philosophy and training available, and most local schools will give college credit to graduates of this course, but course credit will not be accepted by police academies even though the course would be extremely beneficial to students in familiarizing and assisting them in their adjustment to police work. It's the sort of situation Barney Miller faces all the time.

New Reserve Pay Study: More Bucks To EM

Recently the Department of Defense released a report on Reserve Forces compensation which proposes widespread changes in the ways Reservists are paid.

Officially known as the Reserve Compensation System Study (RCSS), the report has yet to be endorsed by the Pentagon, much less sent to the Congress in the form of specific legislation. The report is about the size of an unabridged New York City telephone book and covers every element of the Reserve Components — the Army National Guard, the Air National Guard, the Army Reserve, the Naval Reserve, the Marine Corps Reserve, the Coast Guard Reserve, and the Air Force Reserve.

What Doesn't Work. This first-ever report on Reserve compensation says the Reserve forces are in trouble. The study points out that recruiting practices successful for the active force simply do not work for Reserve forces, mainly because Reservists look upon Reserve duty as a part-time job. Benefits and privileges don't mean as much to most Reservists as they do to the active force members, or so says the study.

Personnel shortages are not an across-the-board problem, however, since the Reserve components have no problem attracting and retaining senior NCOs and officers.

Since the shortages are mainly in the lower enlisted grades, principally first-termers and in the combat arms, the study recommends that pay be structured to benefit junior members in combat units rather than old timers who are dubious mobilization assets.

The study also suggests a set of alternatives for Pentagon manpower planning experts, to include such recommendations as creating or increasing training and retainer pay, selective enlistment bonuses, selective reenlistment bonuses, and lump sum retirement options payable after 20 years.

All of these proposals have yet to be worked out in detail, say Pentagon officials, who emphasize that it is too early to tell how the study recommendations will be treated.

The RCSS is clearly addressed to paying more now to new and young people in combat units and to letting pay for senior enlisted and officer personnel level off.

subscriptions

To be a happy and joyous recipient of this bright and information-filled magazine, you must make sure the Darth Vadars of admin have your correct address. You can't get it to them through the charming lads who publish this useful magazine from their five-sided fortress on the banks of the Potomac River though. No. In fact, everyone in the Reserve should get the magazine automatically within two months after joining up. If not, it means your local CONUS Army or RCPAC doesn't have your correct address. Unit members have to make sure it's typed under their name on DD Form 1379, Record of Unit Attendance. (Nothing else will do.) Then, and only then, can the data processing people at Forts Meade and Sam Houston and the Presidio plug in a proper address. Folks in the IRR have to notify RCPAC. Then, if all else fails, write to us. Addresses are on page 2.

The Joys Of Space "A" Travel, Or Flying The Bumpy Plain Plane

Military flights sound like a fine idea. With just an ID card and a letter from his or her unit commander, a Reservist can take a flying leap at any military air base and fly free anywhere in the United States or its scenic possessions.

For Reservists, the problem is that free flights are often hard to come by. Active service members and their dependents have priority, which means "bumping" can and does take place. Spec. Hanna Ian, a former member of the 96th ARCOM, found that out the hard way.

The 23-year-old Utah Reservist, seeking a hop to the East coast last year before Thanksgiving, spent five days at Travis Air Force Base in California before giving up and returning to Utah. She later boarded a train and reached her destination in New Haven, Conn., with little difficulty.

While Ian had problems at Travis, she was successful in getting a hop from Hill Air Force Base to the California base where she figured she'd have a better chance to catch a flight, but she was repeatedly bumped from planes — and gave up, again.

Plane Jane Advice. "I would recommend that others interested in taking a hop do so if they have the patience to go through the hassle, but I wouldn't recommend it for an inflexible person or for someone trying it during the holidays or other rush periods," the psychology graduate said.

A former member of the ARCOM headquarters, Organizational Effectiveness Section, Ian drove her car to Hill AF Base, where she was able to secure transportation on a plane about three and a half hours after her arrival.

The problem in getting a plane from Travis was that flights were either cancelled or overbooked, or she was bumped by active duty personnel. The last bump was particularly disappointing, because it happened on her fourth day at Travis and just minutes before the scheduled departure of a plane for Schenectady, N.Y.

Ian passed the time at Travis visiting with a retired man who had similar disappointments in trying to catch a plane, hard under the best of circumstances because they're very fast.

When her plane failed in California, Ian contacted Traveler's Aid Society, which arranged bus transportation money for her to return to Salt Lake City.

Because her husband teaches at a college and is unable to leave his job very often, or for very long, Ian said it's unlikely that she will try a similar military hop again.

A number of Reservists are finding that the free military flight, or flying the plain plane, is very like the proverbial free lunch: mighty good and mighty scarce.

I'ts Happening Everywhere: New Trends Spotted

In a recently completed informal survey conducted by the Informal Survey Division, Operations and Readship Management Office, Reserve Populations Trends and Behavior Directorate of the Army Reserve Magazine Branch, Public Affairs Office of the Office, Chief, Army Reserve, it has been positively noted in an undocumented manner that more and more Army Reserve troops are being photographed in gas masks than ever before, and that those photos are appearing with increasing frequency on the pages of *Army Reserve Magazine*. Demographers are now beginning to notice a positively negative correlation between cheesecake and mustard gas.

It Was The Kind Of Day That Makes You Feel Downright Good

It was the kind of day enlisted men and women have fantasies about, especially when pushed. It was a chance to get even in the very best traditions of the service. A chance to sock-it-to-em, Army-style. And they did. And it felt good.

It took the combined efforts of the Womack Army Hospital, the entire medical staff of the XVIIIth Airborne Corps, the Reserve's 3274th US Army Hospital and a handful of student nurses to do it, but more than 3,100 Army ROTC cadets were gagged, weighed, stripped, bent and jabbed through a dozen examining and immunization stations in less than two fun-filled afternoons.

This efficient, mass-production examining technique cost the Army about $7.00 per head and, judging from the expressions on their faces, the future butter bars loved it, or at least nobody complained. Maybe that was because of the cookies and other treats at the end of the line, or maybe it was just plain, old fashioned terror.

colt 45

It's No Easy Job Retraining Trainers As The USAR's 108th Division Outdoes Itself

The sweat was dripping from his forehead as 2nd Lt. Kent Radford trugged down the hot, sandy path of the Corregidor defensive tactics range at Fort Jackson, S.C.

"I'll tell you," said the Army Reservist from the 108th Division (Training) of North and South Carolina, "this is totally different from any other summer camp I've been to."

Indeed it was.

Lieutenant Radford and more than 3,000 members of the 108th underwent a massive transformation they would long remember during the series of two-week summer camps the division conducted in May, June and July for Annual Training '78.

Home, Sweet Home. It was all for OSUT, which has become a household acronym around the 108th. OSUT stands for (Infantry) One Station Unit Training. Under the old concept, a trainee went to one post for his initial Basic Combat Training (BCT), then shipped out to another post for his Advanced Individual Training (AIT).

Under OSUT, a trainee stays with one training unit receiving his BCT and AIT in one fell swoop.

That's meant regular Army training units have had to put on another hat, teaching troops both BCT and AIT.

And because it's a Reserve training division that helps active Army training units during its summer camp, the 108th confronted the same face change.

The 108th had two alternatives in taking on the new OSUT mission. It could ride along with the tide and retrain for OSUT slowly over several years, or it could take the bull by the horns and jump right into retraining for OSUT — which is just what happened.

After 107? The 108th is one of 12 Army Reserve training divisions across the country. And, said assistant division commander, Brig. Gen. Berlyn K. Sutton, "We're about a year ahead of the pack, more or less, in switching to an OSUT role."

So the division decided to bite the bullet now.

The 108th, under its old organization, was made up of four training brigades, a BCT committee group that operates ranges and handles specialized infantry instruction and a support battalion. Two brigades taught BCT, one taught AIT, and the fourth brigade taught CST (Combat Support Training).

Under OSUT, all four brigades will be combination AIT and BCT brigades. And the Committee Group will form the nucleus of a new division training command, which will also take in a committee group now with third brigade.

The planning and preparation for retraining was nothing less than massive. Training flow charts for the division's series of two-week summer camps at Fort Jackson looked like Chinese crossword puzzles.

Retraining for OSUT was divided into two phases. Phase I, which began last October, was the IDT phase, consisting of basic infantry classes that could be conducted at the unit's reserve centers during weekend drills, while Phase II consisted of 93 hours of training that couldn't be conducted during weekend drills. It was conducted during Annual Training at Fort Jackson, where the division was divided into two training increments.

"Consider the magnitude of the problem we were facing upon our arrival at AT," said Sutton, "the massive reorganization, the logistical problems, the tremendous preparations. . . . We went everywhere for training aids and equipment — the North and South Carolina National Guard, 120th ARCOM, Forts Jackson and Bragg, but when we started fitting all the pieces together Sunday, June 4, it was a beautiful sight to behold."

Square One. The sight to behold was trainers spending their summer camp as trainees.

EMs, NCOs and drill sergeants by the hundreds trooped out to classes ranging from communications and squad tactics to setting up bivouacs and digging foxholes — all to prepare themselves as 11B (basic grunt) instructors.

The division also set up a learning center packed with manuals, training equipment and six TEC machines (portable TV consoles) that members could visit in their spare time to brush up on a subject.

Another key decision was made implementing the training: Officers taught the classes. That way, all the NCOs would be able to attend instruction. Nevertheless, there was some skepticism among the enlisted ranks over whether officers could handle the instruction.

"But they've definitely proved us wrong," said Spec 4 John W. Blanks with fourth brigade's third battalion. "I think they did a fine job, all the instructors."

"You've got to realize," said Capt. Greely R. Palmer, Jr., one of the division's range officers, "we had drill sergeants taking classes who've done this stuff for years and we were trying to teach them, not just to complete the OSUT mission, but to better prepare themselves."

For the division's two BCT brigades and one AIT brigade, retraining for OSUT was more or less a matter of tacking on new skills to the skills they already have in 11B instruction.

Tiger Spots. OSUT retraining, however, was a different story for the division's fourth brigade.

Fourth brigade, under the old organization, was made up of clerks, radio men, cooks, drivers, mechanics, etc., all trained to teach advanced individual training in combat support MOSes. Changing to an OSUT brigade that teaches only BCT and AIT has been like changing the stripes on a tiger to spots.

Although a number of fourth brigade's members were already well-versed in the 11B MOS — in some cases because that was their old MOS before they switched to a CST MOS — switching roles has been a big job.

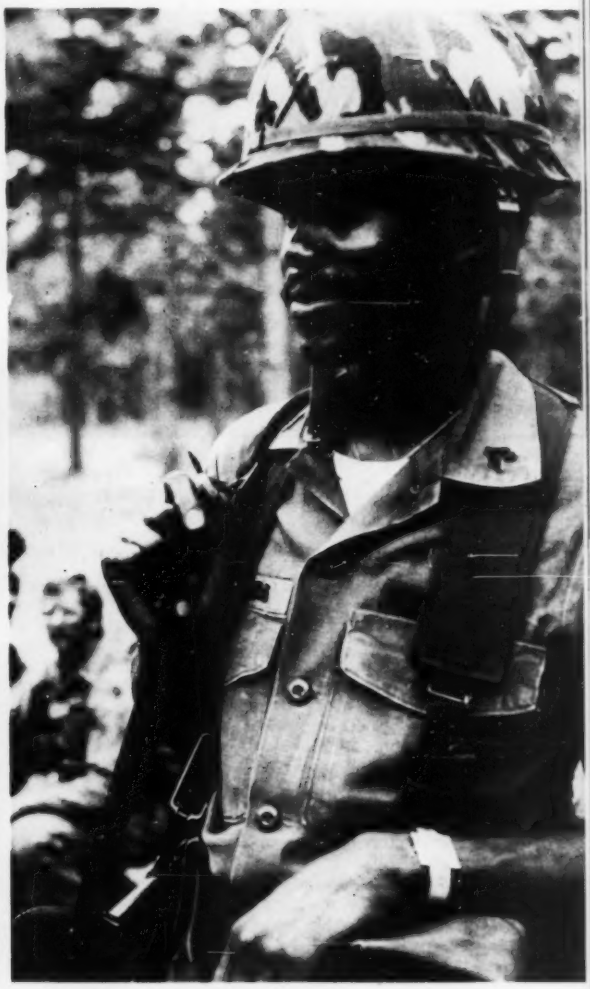
Take fourth brigade's first battalion, for example. The Lumberton, N.C., battalion's goal is to have 60 drill sergeants under OSUT. As a CST battalion, the unit had no more than four men actually trained as drills.

The battalion graduated 23 drill sergeants from the division's leadership academy this summer camp and plans to fill out the ranks in the future.

Generally, the officers teaching classes, and the enlisted personnel taking them, were pleased with the training.

"They're picking it up," said Capt. Samuel Carson of the fourth brigade's 2nd Battalion, Company B. "They seem to be doing pretty well."

Said Staff Sgt. Carl M. Cherry of the division's Committee Group at Fort Jackson, "I think the key thing



"IT'S LIKE I'VE BEEN DRAFTED AND RUN THROUGH BASIC ALL OVER AGAIN," SAID ONE SARGE AND HE WASN'T KIDDING

is that a majority of the men in classes are taking notes this time. That means they're concerned about learning something."

Still, gripes could be found.

Love of Nature. The overnight bivouacs the division held weren't popular with some. "It's nothing but basic training," groused one sergeant. "It's like I've been drafted and run through it all again." Said another sergeant: "I've got 20 years as a supply sergeant. What the hell are they trying to make me an 11B now?"

Others complained that the courses were repetitious or boring, because the courses went over things already known.

Training planners said they realized they weren't going to be able to please everyone all the time and that some troops would find the training repetitious. But, they said, it would have been impossible for the division to prepare individualized instruction for every student with a lesson plan that concentrated on just what that student didn't know.

SQT. It's another household acronym with which the division is becoming well acquainted, for one of the primary goals of the OSUT retraining is passing the SQT (Skill Qualification Test).

AT-78 for the 108th Division culminated in 857 Reservists taking the SQT for MOS 11B. Some took SQTs to become qualified in their new 11B MOS. Others who are already 11Bs took it to "verify" or "certify" — that is, to score high enough to keep their present rank or be promoted.

Fourth brigade, the CST unit that has so far to go towards switching to OSUT, took SQT only for practice at AT-78. The brigade's members will take the test for record at a later date.

"I'm going to be on the positive side about their results," said Maj. Harrell Wood, the division's SQT test officer. "If they've studied, it'll show. If they haven't studied, it'll show." And that's what training trainers is all about.

USAR Shooters Take Camp Perry By Storm

And A Bang-Up Time Was Had By All: USAR Shooters Take Perry

In what was their most successful summer ever, Army Reserve shooters won a record number of team and individual championships at the annual Camp Perry National Rifle and Pistol Matches.

Lt. Col. Tommy G. Pool's victory in the service rifle competition was won firing an M-14 during the three-day championship. Pool out shot Master Sgt. William R. Lee of the US Army's Marksmanship Unit by firing 2,368 to Lee's 2,367, all out of a possible 2,400 in 240 shots at 200 to 600 yards.

Deadeye Squad. In service rifle team competition, the 6-man Reserve squad set a new record of 2,908 — out of a possible 3,000 — to win the National Trophy Rifle team championship. It was the first National team title ever for the Army Reserve. The National Guard was second in this year's event with a score of 2,889. In third place was a team of Marines at 2,888.

Firing on the winning team team were Spec 4 Thomas J. Whitaker (491); Capt. Ray P. Carter (488); Capt. Boyd D. Goldsby (488); Master Sgt. Ray Crouse (481); Capt. Donald Dixon (480) and Maj. John R. Foster with a (480). Lt. Col. Tom Pool coached and Maj. Frank Loudermilk captained the team.

In another upset, the Army Reserve teams finished first and third in the National Infantry Trophy Team Match which has been dominated in the past by Active Army teams. The winning team totaled 1,252 points. In second place, was a USMC squad with 1,246 followed by the third place USAR team with 1,194.

The Infantry Team Match is shot on eight silhouette-type targets at 600, 500 and 300 yards, pitting six shooters in a race against the clock to fire a total of 384 rounds in 50 second bursts at each yard line. Members of the first place team were Staff Sgts. Allen Ewing and Mark McSheehy; Sgt. 1st Class Heigo Orav; Majors Frank Loudermilk and Ralph McGill, and CWO Billy Atkins.

GRINNING MARY STIDWORTHY COULD AFFORD TO GRIN. IT WAS ALL OVER, BUT NOT FOR LTC LONES WIGGER (TOP OF PAGE)

Small Victories. In the smallbore phase of the month-long National Matches, Spec 4 Mary Stidworthy, of the Arizona National Guard successfully defended the national title she won in 1977. Stidworthy is the only woman ever to successfully defend her title and the first person since G. Wayne Moore to win back-to-back victories at Camp Perry.

Stidworthy out X'ed Lt. Col. Lones W. Wigger, of the US Army Marksmanship Unit 6,392-520X to 6,392-511X to take the crown, while Marine Reservist John Comley of Carrollton, Tex., was third at 6,391. USAR Spec 4 Thomas J. Whitaker, a dental student at the University of Southern California, was fourth place individual finisher. His four-day tally was 6,390.

Whitaker contributed an unblemished 400 with 37 dead-center X's to anchor the four-man USAR team which claimed the any-sights national prone team championship with a perfect 1,600 points and 131-X's.

The same four men combined in the iron sights prone team championship for a 1,597 total to take second, just one point behind the winners, USMC Gold.

Lone Lones. Wigger took an unprecedented eleventh Position Rifle National Championship and established a new national record at 2,258 out of a possible 2,400. Gloria Parmentier, a student at East Tennessee State University, was second at 2,219. Capt. Ernest J. Vande Zande, also of the US Army Marksmanship Unit, was third with a 2,190 total.

In the smallbore position team competition, an Army Reserve team composed of Maj. David Cramer, Captains Robert Bach and William Beard, and Spec 4 Thomas Whitaker captured the any sights championship with a score of 2,259. The Active Army's four-man team earned the iron sights crown with a 2,239.

Hand Gunslingers. Army Reserve handgunners grabbed the top national three-gun Team Aggregate score in the pistol portion of the National Matches. Finishing third in the .22 pistol match, second in the .45 pistol match and first in the center fire pistol match, the quartet of Reservists racked up 3,487 points, well ahead of the second place US Army Team at 3,479 and the National Guard entry at 3,477.

Shooting for the Army Reserve were Specialists Mel Makin, Jerry Wilder, Darius Young, and CSM Charles Wheeler. Staff Sgt. Steve Reiter coached the team.

In the National Trophy Pistol Team match, the team of Makin, Wilder, Young and Wheeler finished third with a 1,124 total behind the US Army (1,135) and the National Guard (1,133). All in all, a bang up record.

BUILD ON A SOUND INVESTMENT. REENLIST.

Make the time you've invested in the Army Reserve really pay off. By reenlisting.

You can look forward to more raises and promotions (which means a bigger paycheck), increased retirement benefits, continued low-cost life insurance, PX privileges, old friendships and new ones.

Reenlisting will make you feel proud, too. Because you'll be using your years of service experience to benefit your country, your community and your unit.

So build on your investment. Reenlist in the Reserve. You'll get a lot in return for your time.

THE ARMY RESERVE

WEST GERMAN MARDER, HEAVIEST OF THE IFVS, IS THE BATTLEFIELD COMPANION OF THE GERMAN LEOPARD TANK

Foreign Trends In Fighting Machines

The US Army needs 6,889 new armored vehicles for its infantrymen. The cost for these machines is roughly $4 billion. That's more money than the entire Army budget for 1950, more money than there are dollar bills in current circulation, and enough money to buy every American family a new TV set.

Other nations are facing the same problem. To be competitive on the battlefield, indeed to survive, new fighting machines must be bought, and they are expensive. A typical armored infantry fighting vehicle, or IFV, easily costs several hundred thousand dollars and one is needed for every squad of infantry. That makes platoons multi-million dollar investments.

Expensive choices are being made in both hemispheres. Malaysia is currently in the market for 1,200 armored infantry fighting vehicles, also known as MICVs, or mechanized infantry combat vehicles. Considering the investment, it's not surprising to find that Malaysia has tested half a dozen different types in dozens of different combinations — some with tracks, some with wheels, some with cannon and some without. In today's international arms bazaar, all kinds of options are available and all kinds of purchase arrangements are possible to fit nearly every budget. But there must be trade offs.

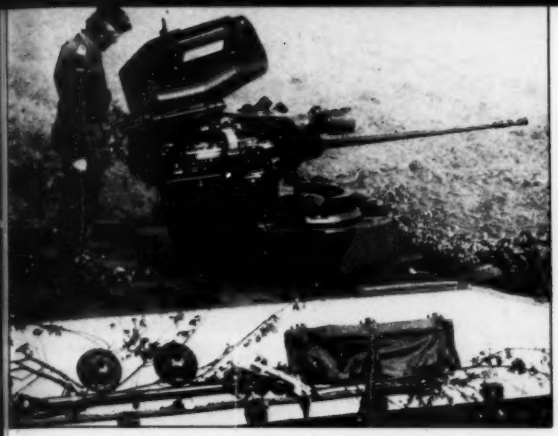
Same Dilemma. In industrialized western Europe, the Belgian Army, now in the market for about 1,100 machines, is facing the same dilemma as tropical Malaysia. The Belgians are considering an all French-built, all-tracked force of AMX-10 MICVs, a mixed force of tracked AMX-10s and wheeled, French-built VABs, an all-tracked combination of American-built M113 personnel carriers and American-built infantry fighting machines or, finaily, an all-wheeled armored force of Swiss-built fighting vehicles and personnel carriers.

REMOTE CONTROLLED MG TURRET USED ON MARDER AND PIRANHA IFVS

The choices among machines are confusing and tactics are still much debated — even within the Soviet Army, which is now fully equipped with one of the world's best IFVs, the BMP. In fact, neither buyers nor experts seem to fully agree on either IFV roles or definitions.

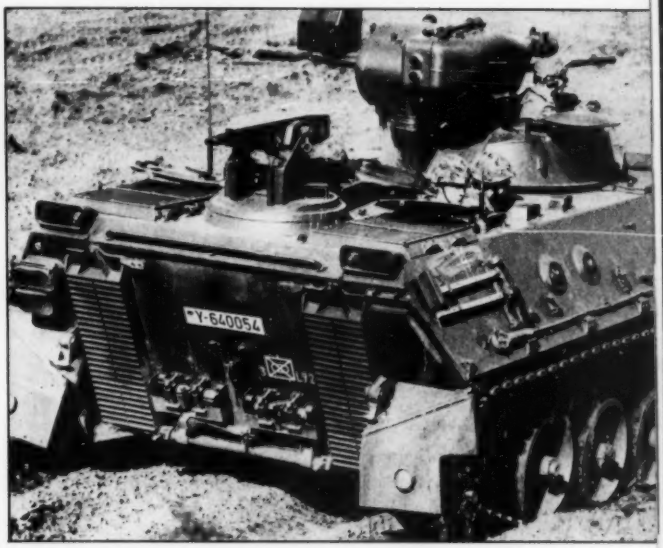
According to *Jane's Armored Fighting Vehicles*, a world authority, an IFV is defined as an armored, tracked, troop-carrying vehicle with firing ports. An armored, tracked, troop-carrying vehicle without firing ports is an APC, and an armored, wheeled, troop-carrying vehicle with or without firing ports is an APC. The definitions are simple, but ineffective.

If the track vs wheel, port vs



UNDER ARMOR PLATE, MARDER'S 20-MM AUTOMATIC CANNON

MARDER AND LEOPARD WORK AS TANK-INFANTRY TEAM



REAR VIEW OF MARDER SHOWS ALL-AROUND FIREPOWER

no-port definition is too narrow, Richard M. Ogorkiewicz, senior instructor in mechanized engineering at Britain's Imperial College of Science and Technology and one of the world's foremost authorities on armored vehicles, has a more simple definition of IFVs: "They're APCs that can fight back."

"Further," says Ogorkiewicz, "IFVs should have the capability of delivering troops into combat under cover from small arms fire and artillery splinters, afford protection from nuclear, biological and chemical warfare agents, be amphibious or have deep wading capabilities, have armament capable of engaging other IFVs or lightly-armored vehicles, have firing ports for individual weapons and, most importantly, permit the troops inside to see what's happening outside."

According to Ogorkiewicz, IFVs do not have to run on tracks, but may be wheeled, which makes them cheaper to buy and maintain and permits armored forces to move faster, a distict advantage in Europe, for example, where the highway network is extensive and where military forces are often located several hundred miles from the points they must defend.

The question of spending still more defense money on a relatively new kind of infantry fighting vehicle is something each individual nation will have to face, but the need for these vehicles seems well developed.

Costly Concept. The German Army successfully introduced the concept of "motorized riflemen", the forerunner of today's IFV troopers, during World War II. By war's end, every major nation had caught on: motorized, and, later, mechanized soldiers were essential.

Outnumbered German forces had proven that it was possible to overcome numerical inferiority by moving fast. Infantrymen, or "motorized riflemen," were transported by truck or lightly armored trucks but they still fought on foot. Their great advantage was mobility.

Occasionally, when enemy resistance was light, these new motorized soldiers would fight from their moving vehicles, but this wasn't essential. What was essential was mobility: having fast-moving infantry armed with antitank weapons. The tank was the most important offensive weapon on the battlefield, and the tank's success depended on close infantry support.

By the close of World War II, it was obvious that motorized infantrymen needed more armor protection; so the completely enclosed armored personnel carrier was developed to provide mounted infantrymen with limited protection from small arms fire and the showering bursts of artillery.

The infantryman could still fight from his APC by popping his head out of open roof hatches, but it wasn't a good idea; once exposed, his protection was gone. The APC was designed to get the soldier to the battle, not to fight it.

The Trend Continues. By the 1950s, a pronounced "mechanization" trend had developed, and armored vehicles were being designed specifically to carry infantrymen expected to fight on conventional as well as contaminated nuclear battlefields.

The French were the first to build an infantry fighting vehicle, leading the way as early as 1956. The Soviets followed close on, as tactical doctrine shifted from using armored vehicles for taxiing troops, to using them to help fight the mechanized tank-infantry battle.

By the late sixties, infantry vehicles were equipped with new antitank missiles and large automatic guns to kill other armored infantry carriers at long range.

By the middle seventies, the range of antitank missiles out distanced the range of tank cannons by 50 to 100 percent, and an AT missile could kill tank-size targets at 3,000 meters nine times out of ten. Meanwhile the standard range for tank cannon engagements had remained at 1,500 meters.

FRENCH VAB USED AS AN ANTITANK MISSILE VEHICLE

DISMOUNTED INFANTRY PROTECT TANKS FOLLOWING VAB

6X6 AND 4X4 VERSIONS OF THE VAB USED AS IFVS

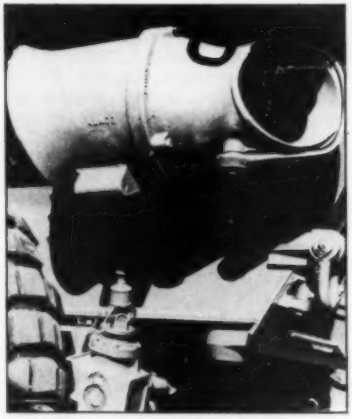
EXITING A FRENCH GIAT AMX-10P IFV

Yet, all the great armies of the world have invested heavily in the tank. Tanks are the backbone of American, Soviet, NATO and Warsaw Pact armies. Even the world's poorer nations are not without tank and heavily mechanized or motorized formations.

Mounted Infantry. In mounted warfare, the tank is *the* offensive weapon. It has the firepower and mobility necessary to destroy or outmaneuver enemy forces but, even with its heavy armor, it needs protection. The tank cannot move alone without suffering unacceptable losses, which is why all elements of the combined arms team — artillery, engineers, infantry and air — must be used together to support the aggressive forward movement of tanks.

In mounted warfare, the mechanized infantry's mission is to support tank forces. Either mounted or dismounted, mech infantry must supress or destroy enemy infantry armed with long- and short-range antitank missiles. Mech soldiers must infiltrate on foot to seize enemy-held terrain capable of stopping tank attacks. Mech infantry must protect tanks from enemy infantry during bad weather, at night or when covered by smoke. Mech soldiers must dismount to clear mines or support mine clearing operations, must protect tanks in cities and other built-up areas where the tank's mobility and visibility are limited, and mech infantry must provide long-range antitank guided missile support from firing positions behind the tanks as the tanks attack.

In the defense, the mechanized infantry force must destroy enemy tanks at long range. To do that, infantrymen have long- and short-range antitank missiles.



VAB USES HYDROJETS FOR SWIMMING ACROSS WATER BARRIERS

The mech force must be able to counter-attack with antitank missiles and supress enemy antitank weapons while friendly tanks are moving on the battlefield.

If enemy antitank positions cannot be supressed with gunfire, defensive tactics call for the mech infantry to dismount and attack them. Dismounted, mech infantry must also block likely routes of advance, conduct patrols, guard the tanks at night, hold wide fronts and defend cities and forests which are unsuitable for mounted warfare.

Infantry Machines. Until recently, mechanized infantrymen could carry out their missions with armored personnel carriers, but new tanks with greater speed and mobility have left APCs in the dust. IFVs must be able to keep up with new tanks and be armed to protect themselves against other armed fighting machines. The IFV must also offer armor protection against overhead artillery air bursts and, at a minimum, long range machinegun fire, as well as protection against chemical agents and nuclear contamination.

The IFV must be able to swim or wade streams and rivers so it can deliver infantrymen to bridgeheads for the crossing of tanks. It must have a gun capable of killing other IFVs or lightly armored vehicles at long range; and it must carry antitank missiles or infantrymen armed with antitank missiles — preferably both.

The IFV must have vision blocks and firing ports so the men inside can orient themselves to the battlefield and protect themselves at close range from dismounted infantry attacking with antitank weapons.

Traditional Tracks. Until re-

INFANTRY CARRIERS

FOR RECON: AMX-10 RC WITH 105-MM

PRODUCTION OF 20-MM CANNON-ARMED FRENCH AMX-10P BEGAN IN 1963

cently, the European trend in IFVs ran heavily to those propelled on tracks, because it was considered mandatory that IFVs go everywhere tanks went. That trend may be changing, even though tracked vehicles can negotiate terrain too formidable for wheeled carriers.

The ultimate in tracked IFVs is currently the West German *Marder*, a 28.2 tonner that is the most heavily armored and powerful IFV in service. Weighing as much as some battle tanks, less their turrets, the *Marder* is the primary infantry carrying vehicle of the German Army. It embodies German Army doctrine, evolved from the success of *Panzer grenadier* divisions in World War II, which says that armored infantry vehicles should be capable of working closely with tanks, while also allowing armored infantrymen to fight mounted or dismounted and independent of tanks should circumstances require it.

The *Marder* has a crew of three and carries seven infantrymen, who can fire personal weapons through ball socket firing mounts. They can aim through the ball mounts or see outside through three periscopes on either side of the hull. The *Marder's* main weapon is a 20-mm automatic cannon. Coaxially mounted is 7.62-mm machinegun, and a remote controlled 7.62-mm machinegun is mounted on the rear deck. The *Marder* has an NBC protective system and, although not amphibious, an easily

World's Most Popular IFVs

Soviet BMP Introduced in 1967; Crew: 3 plus 8 infantry; Weight: 13.9 tons; Speed: 80 kph land, 6-7 kph water; Range: 500 km; Weapons: 1 X 73-mm cannon, 1 x 7.62-mm coax MG, Sagger AT missiles, 8 firing ports; Armor: 14-mm magnesium; NBC protection: overpressure with filters; Night vision: IR for driver, commander and gunner, passive for gunner. In service with Czechoslovakia, East Germany, Egypt, Syria, Iraq, Libya, Poland and USSR.

French AMX-10P Introduced in 1973; Crew: 2 plus 9; Wt: 15.2 tons; Speed: 65 kph land, 8 kph water; Range: 600 km; Weapons: 1 X 20-mm dual feed cannon; 1 co-ax 7.62 MG, 2 smoke dischargers, 2 firing ports; Armor: welded steel alloy, small arms protection; NBC: filtration with radiation meter; Night vision: passive systems available. In service with France, Greece, Saudi Arabia.

German Marder Introduced in 1971; Crew: 3 plus 7; Wt: 28 tons; Speed: 45 kph land, non-amphibious, must wade; Range: 520 km; Weapons: 1 x 20-mm dual-feed cannon, 1 X 7.62 co-ax MG, 1 X 7.62 remote-controlled, 6 smoke dischargers, 4 Mcwag firing ports; Armor: Welded, front resists 20-mm cannon fire; NBC: filter system; Night vision: white and IR lights. In service with FRG only.

American AIFV Introduced in 1977 (Not to be confused with US Army IFV, an entirely different machine) Crew: 3 plus 7; Wt: 15 tons: Speed: 61 kph land, 6.3 kph water; Range: 490 km; Armament: 25-mm dual-feed cannon, 1 co-ax 7.62 mm MG; Armor: welded aluminum chassis, laminate bolt on and foam between armor and hull; NBC protection: none; Night vision: White and IR lights. Employed by Netherlands and Philippines.

mounted snorkel gives it a fording depth of eight feet. The *Marder's* frontal armor is impervious to 20-mm direct hits and the rest deflects small arms fire and shell splinters. Troops enter and exit through a ramp in the rear.

The French, first to see the advantage of an IFV, have been replacing their first generation AMX IFVs with AMX-10Ps. Today, a French mechanized battalion is composed of two companies of AMX-30 main battle tanks and two companies of armored infantry mounted in 34 AMX-10Ps.

In 1973, the French Army accepted its first AMX-10P, which is now the French Army standard. The machine has a crew of two and carries a nine-man infantry squad. Only half as heavy as the *Marder*, the AMX-10P is amphibious, furnishes NBC protection and mounts a 20-mm automatic cannon with a coaxial 7.62-mm MG in the turret. Infantrymen inside can orient themselves through seven periscopes in the sides and rear: firing ports are found only in the two rear doors.

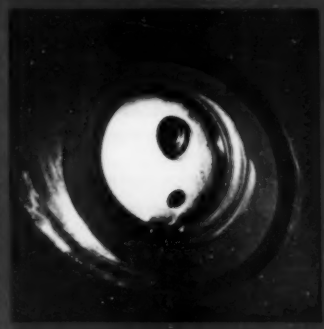
In the motorized infantry division of the French Army, wheeled VABs are being put into service. In fact, 110 VABs are to be found in each of the division's three infantry battalions. The 14.3-ton VAB is equipped with a 20-mm and co-axial machine gun, armor, firing ports and visions blocks, a complete NBC protective system and would easily qualify as a full-fledged IFV were it not for its wheels.

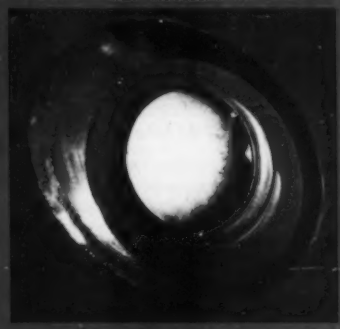
The 4,000-plus VABs currently in French service may be used by Corps commanders to rush troops to where they're needed most. The VAB's road speed is 60 mph, fast indeed for transporting a two-man crew and a heavily armed squad of ten.

More Tracks Churn. Other European non-Communist nations adopting tracked IFVs as their basic infantry transportation include Italy with the M113-A1 modified as an IFV and the Netherlands with the A-IFV, a spinoff of efforts to develop an Infantry Combat Vehicle for the US Army.

The Swedish vehicle is armed with a 20-mm cannon and the Dutch vehicle is armed with a 25-mm cannon. Both machines have vision blocks and firing ports.

On The Other Side. The Soviet Union, its Warsaw Pact allies and client states have the greatest numbers of tracked and wheeled IFVs in the world. Virtually every Soviet or Soviet-trained infantry formation is either mechanized or motorized.





Intelligent Commonality: The Swiss-built Mowag Piranha with 20-mm cannon also sports Mowag-style firing ports, used on this and other European IFVs, including the Marder. The advantages are obvious. Mowag ports also allow the troopers to aim their weapons, as shown in the photo directly above, since there's a sighting hole and a barrel hole. When closed, these ports are gas and air tight.

FOR THE SWEDISH, THE Pbv 302 APC

SWISS-DESIGNED AND MANUFACTURED IN CANADA: COUGAR AND GRIZZLY

AMERICAN-MADE COMMANDO, A MULTI-MISSION VEHICLE, NEITHER IFV NOR APC

BRAZILIAN URUTU EE-11, NEW IN '70

GERMAN CONDOR WHEELED IFV, NEW IN '78

The most widely employed tracked carrier is the Soviet-made BMP-1, a 13.8-ton, amphibious machine with complete NBC protection. It's operated by a crew of three and carries eight infantrymen. It has four firing ports with periscopes on either side of the hull and one in the rear, Troops enter and leave through two rear doors.

The BMP is armed with a 73-mm smoothbore gun and a coaxial 7.62-mm MG which both fire from a low-silhouetted turret. From within the turret, a *Sagger* antitank missile may be loaded on its launch rail to fire over the main gun.

In keeping with its independent attitude toward other European Communist states, Yugoslovia has its own IFV, a new one that, like the BMP-1, has an anti-tank capability. It's called the M980, and was first seen just three years ago in Prague. Its basic armament is a 30-mm automatic gun with a coaxial 7.92-mm MG plus twin *Sagger* mounts. The six or eight infantrymen inside can look and shoot through three gunports on either side.

BMPs and M980s are not the only IFVs with anti-tank capabilities. The French AMX-10P comes in a version equipped with twin HOT anti-tank missile launchers and any IFV can be adapted for a turret armed with almost any missile or gun combination on the market.

What Price Capability? It's clear that IFVs have an advanced fighting capacity far beyond APCs. IFVs are fast and mobile. The troops inside can see and fight mounted. The tracked IFV can fight other light armored vehicles with its gun and can kill tanks with its missiles.

Is that all good? Maybe not. Some experts think that the IFV concept has deviated from the basic purpose of getting troops where they are needed and keeping them oriented on

BRITISH FV432 APC, NEW IN '63

the way. But one thing is certain, as tracked IFVs are fitted with more sophisticated hardware — like full weapons stabilization systems, redundant controls, passive night sites, computers and improved armor — they become as expensive as tanks.

Meaningful IFV cost estimates are hard to come by, although manufacturers love to discuss their vehicles. As a rule of thumb, Maj. Fred Schrier, a panzer battalion commander in the Swiss Army and a much published author on armored vehicles, says a tracked IFV in the *Marder* or AMX-10P class can cost nearly $32,000 a ton. The 23-ton American IFV will cost $370,000 or $16,087 per ton. This has led some experts like Ogorkiewicz to conclude that the trend to make IFVs more capable — and more costly — may have run its course. "I feel very strongly," said Ogorkiewicz, "that we must not overdo this business of capability, for then you wind up with something that is neither tank nor IFV; and it is no longer a cost effective vehicle."

The Wheel. A partial solution to the problem of expense, Schrier, Ogorkiewicz and others agree, is acquisition of wheeled armored carriers to complement the tracked force. Wheeled vehicles have several factors in their favor. They are cheaper to produce, about $18,000 to $25,000 per ton depending on equipment. They are less expensive to maintain — one-third to one-fourth that of tracked vehicle maintenance — and while they cannot negotiate some of the terrain that tracked carriers can, they are much faster on established roads — as found throughout Europe. French four and six-wheeled VABs, for example, have a road speed of 60 mph compared to the AMX-10P's 40 mph.

The wheeled infantry fighting vehicle most widely employed by the Warsaw Pact is the BTR-60P, a light — 11-ton — land cruiser manned by two and carrying ten that moves out at 48 mph. The BTR-60P is amphibious, has relatively thin armor and is armed with one heavy and one light machinegun. Provided with an NBC

MOST POPULAR IFV, SOVIET BMP FULLY OPENED UP

NEW IN '75, YUGOSLAV AAICV IFV

HATCH-END VIEW OF BMP SHOWS WATER JETS

UNDERPOWERED SOVIET BTR-60P, AN APC

over-pressure system and filters, it has three vision and firing ports in either side of the troop compartment. The BTR-60P was first introduced into service in 1961, and it is currently used by 20 nations.

Several new Western-made wheeled, amphibious IFVs have aroused considerable interest among armor students. The *Grizzly*, developed by Mowag of Switzerland, is manufactured under contract in Canada by General Motors for the Canadian Army. It is six-wheeled carrier that moves a nine-man infantry squad, mounts a .50 cal. heavy MG with a coaxial 7.62-mm MG and has a top land speed of 60 mph. It has an NBC protective system, and its troop compartment has six ball mount firing sockets with vision blocks.

Mowag of Switzerland also markets its *Piranha* in four-wheel drive and eight-wheel drive versions. Factory options include the turret provided the Canadians as well as turrets for 20-mm, 25-mm, 30-mm guns and 90-mm antitank cannons.

Another amphibious six-wheeler, called the *Urutu*, is made by Engesa of Brazil for that country's Army and Marine Corps. It has a land speed of 54 mph and, in addition to the driver-gunner, carries 14 infantrymen. The all-welded 12-mm thick steel hull has five combination firing and vision ports on either side and one in the rear. Basic armament is a ring-mounted 12.7-mm MG, but the vehicle can also be fitted with a one-man 20-mm cannon turret and two-man 76-mm gun turret.

The Future. Many military authorities look to the Arab-Israeli war of 1973 as being an indication of what the next conventional war may be like. In that war, both Arabs and Israelis were armed with the latest weapons, and both sides suffered devastating losses: Nearly 50 percent in less than two weeks of combat.

Other experts disagree, saying that armor and air power was improperly used in 1973 and that desert warfare under clear skies means nothing when compared to the conditions that exist in Western Europe.

The Israelis, almost always tight-lipped on the subjects of tactics and strategy, might agree. It is they after all, who have invested the heavy tank capable of carrying a small infantry squad. The Israeli *Chariot* is after all, a tank that carries infantrymen. It is not an IFV.

Tactical, political, geographic and economic conditions will force different countries to make different choices in their search for IFVs. European experts like Schrier and Ogorkiewicz believe that economic realities will force greater buys of wheeled vehicles like the VAB and MOWAG series of *Grizzly* and *Piranha*.

Wheeled vehicles will not replace the more expensive and more capable tracked machines, but wheeled carriers will be used in larger numbers for battlefield movements, thanks in many ways to the "run-flat tire," a vast improvement over the bullet proof tires of just a decade ago.

European experts agreed that it is most important not to lose sight of the IFV's primary mission: transporting troops to the battlefield so they can fight dismounted.

"If you can have improvements," said Ogorkiewicz, "that's fine, but if the improvements are going to make your vehicle too expensive or too unwieldy, then you'll have to let some of the improvements go. You should not have something that is an inadequate tank and over-adequate IFV."

PERHAPS THIS MOWAG PIRANHA IS THE FUTURE: HIGH SPEED, COMMON PARTS, GOOD VISIBILITY, LOWER COST AND LOTS OF FIREPOWER PLUS PROPELLERS

POLICY

New Mobilization Appointments Available

Now A Chance To Pin On Bars And Leaves

If the mobilization balloon goes up, some active Army enlisted soldiers will find themselves serving as officers, at least for the duration of the emergency. This is nothing new, but the Army, which has long offered Reserve commissions and warrants to selected NCOs on active duty, now plans to add two new elements to its "hip pocket" commissioning program so that it can beef up the ranks of prospective wartime officers.

According to both the old and new programs, participants serve on active duty in their regular Army enlisted grades, as long as things stay quiet, but upon mobilization, these men and women would be ordered to active duty as officers with the promise that they would not lose their regular enlisted status and grades when the emergencies ended and their commissions went back into mothballs. In fact, some NCOs would be automatically promoted.

How Now. The existing dual component appointment program offers warrant officer and second lieutenant appointments in the USAR to those active enlisted soldiers who have completed the Pre-commission Correspondence Course and who have met the other criteria spelled out in AR 135-100. (The course is offered through the Army's Institute for Professional Development at Fort Eustis, Va.)

The program's elements will let the Army seek out qualified mid-level and senior NCOs and offer them appointments to officer grades higher than those available under the original rules in addition to continuing the original program.

The first new element of the program will see the Army Military Personnel Center (MILPERCEN) automatically screening the records of E-6s who have attained skill level 4 via the NonCommissioned Officers Educational System or through on-the-job experience coupled with a qualifying score on the skill qualification test. But since the SQT is still being phased in by MOS and Career Management Fields, the procews of identifying qualified personnel will take more time.

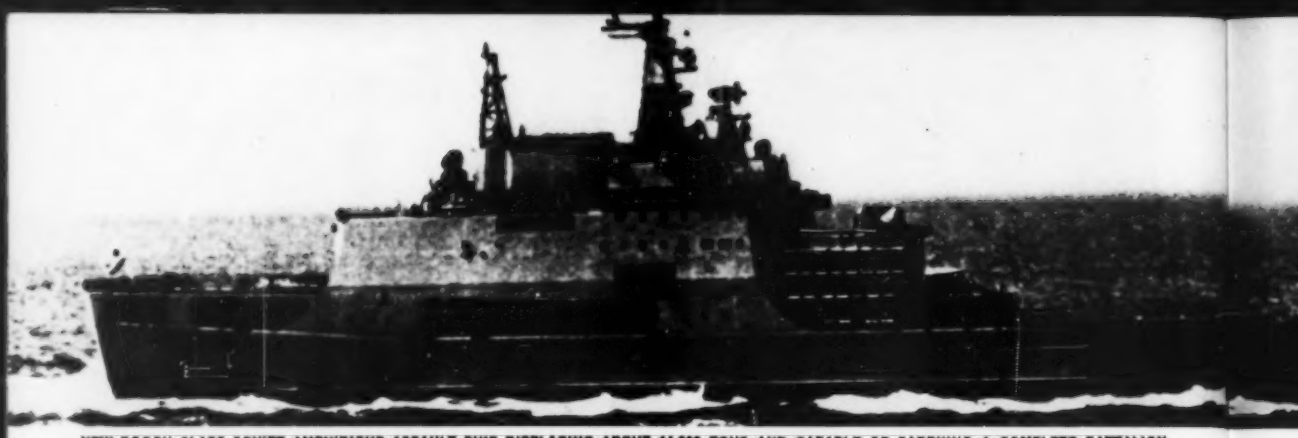
What You Get. The E-6s selected will be offered an opportunity to enter the program. Completion of the Precommission Correspondence Course is also required. Appointments made under this element of the program will be as Reserve first lieutenants and chief warrant officers (WO2).

The other new program element will offer E-8 and E-9 graduates of the Army Sergeants Major Academy appointments to the grade of Major in the USAR. Unlike the other two parts of the program, completion of the correspondence course is not required. But command channel approval from the NCO's chain of command is a must.

Participants who leave the active Army before retirement will keep their Reserve appointments, and they may participate in the National Guard or Army Reserve as warrants or commissioned officers.

MILPERCEN cautions, however, that prospective applicants should not enter the program if their ultimate goal is to become active commissioned officers since Federal law prohibits them from attending officer candidate school. If being a career NCO is the objective, though, the program will be a definite plus. Entered in the soldier's personnel file, participation can boost enlisted promotion and school selections.

In spite of what good this program may do for an individual's career, it has proven difficult for many to turn in their bars and, once more, wear stripes. What these programs have done, however, is provided the Army with experienced officers when they are needed most.



NEW ROGOV CLASS SOVIET AMPHIBIOUS ASSAULT SHIP DISPLACING ABOUT 14,000 TONS AND CAPABLE OF CARRYING A COMPLETE BATTALION

INTELLIGENCEWATCH

• The Federal Republic of Germany recently photographed a new class of Soviet amphibious assault ship. Called *Rogov* and displacing approximately 14,000 tons, this new class is the largest in the Soviet navy. The new vessel is armed with surface-to-air missiles and 76- and 23-mm guns. Being about 1.5 times the size of a football field, *Rogov* can carry four air cushion assault vehicles (RESERVE, May-June 78), other landing vehicles, tanks and one entire naval infantry (marine) assault battalion. The *Alligator* class of Soviet amphibious warfare ships, displacing only 5,800 tons, was the largest class of amphibious warfare ships flying the red flag until *Rogov* was spotted in the Baltic. Intelligence indicates that *Rogov* is ideally suited for operations in areas such as northern Norway, NATO's vulnerable northern flank, Africa and Asia.

• On May 9, 1978, according to the initial Chinese protest, the Soviets dispatched a helicopter, 18 boats and about 30 soldiers into Chinese territory where, it was claimed, they roughed up several Chinese civilians and finally withdrew after Chinese protests. The Chinese note suggested that the incursion was intended as a means of pressure in connection with the Sino-Soviet border negotiations which had resumed on May 4 after more than a year's lapse. The Chinese on May 11 demanded that the USSR apologize, punish the culprits and "guarantee that no similar incident would occur in the future." On May 12, *Tass* admitted that a group of Soviet seamen had indeed mistakenly crossed into Chinese territory "while searching for a dangerous armed criminal" but had withdrawn when they realized their mistake. *Tass* reported that regrets had been expressed to the Chinese.

EAST GERMAN LOADS SIMULATED GAS ROUND

• On January 1, 1979, E-3A AWACS (Airborne Warning and Control System) aircraft began flying missions in the defense of the Continental United States as the Tactical Air Command's 552d Airborne Warning and Control Wing became fully operational. The AWACS is capable of "seeing" for hundreds of miles, keeping track of hundreds of airborne targets simultaneously, linking with ground radars, directing airborne interceptors and performing a number of other super sophisticated surveillance and control missions. The Air Force currently has 34 aircraft on order with a program unit cost of $122 million per aircraft.

• The Swiss military magazine, *ASMZ*, reports that the East German *Volksarmee* is being equipped with chemical warfare weapons systems, and that reorganized divisions are already in the works. *ASMZ* emphasized that chemical and biological weapons can be fired by almost all of the artillery and rockets systems currently in use by the East Germans.

• Earlier this year, a high-speed anti-tank missile was destroyed by a high-energy laser built by TWR Systems under a US Navy contract. While the Pentagon wishes to make clear that this is "not a demonstration of a weapons system," Defense officials are willing to concede that the Soviets may have already forged ahead in high energy laser development. The Pentagon still views the high energy laser as a "potential weapon" with no likelihood of weapons development beginning until after 1982. The best near-term employment for a laser weapons system would appear to be close-in defense for ships.

• According to *Aviation Week and Space Technology*, the Congressional Budget Office recently estimated that buying 200 MX missiles, building 5,800 shelters for them and operating this system would cost $28.3 billion through Fiscal Year 2000. A similar force of 300 missiles operated through 2000 would cost $37.6 billion. The first plan calls for one missile for every 29 shelters; the second plan calls for one for every 28, although the Defense Department recommended a ratio of only 1:20 or 1:25. At the same time, a White House spokesman said: "The President has repeatedly said it's going to be a tight budget year in Fiscal '80."

• McDonnell Douglas unveiled its entry in the Army's Advanced Heavy Anti-tank Missile System competition at the Farnborough Air Show in early September. The proposed TOW successor, one of five competing designs, operates in the 4-6 kilometer range, as opposed to TOW's 3-5-kilometer range. The missile has the potential of carrying dual guidance systems for use in bad weather or in an electronic

warfare environment, but this laser-beam-riding missile does not have the "fire and forget" characteristics of the Army's *Hellfire*. Army AHAMS studies are currently scheduled to continue into 1980.

• NATO small arms tests are scheduled to be completed in 1979 with results due by 1980. In this series of tests, a new NATO standard caliber will be chosen to replace the now NATO standard 7.62-mm. Although it is still unofficial, the United Kingdom has all but withdrawn its 4.85-mm round from consideration. Most NATO nations appear to favor 5.56-mm, already the US Army standard and as probable NATO winner.

ENTRY OF BRITISH BULLPUP RIFLE (RIGHT) LOOKS DIM IN COMING NATO COMPETITION

• In October, after 10 years of development, the Army accepted its first TACFIRE artillery computer system (RESERVE Jul-Aug 78) for full-scale development with the first non-test systems due for delivery in early 1980. Just prior to acceptance, the General Accounting Office reported that during phase three of operational testing, TACFIRE digital message transmitters used by forward observers were successful only 28 percent of the time. The GAO report also noted other system failings and recommended limited production of TACFIRE, delay in full production, the re-fitting of early delivery systems with improved components and integration of Guard and Reserve requirements. The Army Guard and Reserve currently hold 55 percent of the US Army's artillery assets.

• The Canadian Army has taken delivery of its first German *Leopard* C-1 main battle tanks. The total order of 114 tanks plus armored bridge layers and recovery vehicles is due by August 1979. A similar order for 100 tanks was placed earlier by the Australian Army. The Canadian version, the *Leopard* C-1, and Australian AS-1 are virtually identical and represent the most advanced *Leopard* design, short of the *Leopard* 2. The C-1 and AS-1 mount thermal-sleeved 105-mm guns, integrated fire control systems, including stabilized sights, computer controlled laser ranging, image-intensifying night vision equipment, deep wading equipment, replaceable track pads, and an improved welded turret made from rolled steel.

• Both Leonid Brezhnev and Soviet Premier Aleksei Kosygin have made clear that the Treaty of Friendship and Cooperation just concluded by the USSR and Vietnam is designed to deter China from taking military action against Hanoi. At this time it is not certain if the Soviet Pacific Fleet will use Cam Ranh Bay as a base as part of the agreement, although the Soviets made that request early in 1975, following final North Vietnamese victory.

• According to *Aerospace Daily*, the Carter Administration has decided to expand military sales to Yugoslavia to provide an alternative weapons source for that Communist nation and to encourage its independence from the Soviet Union. Sales to Yugoslavia could run to between $5 and $10 million in the next year, if the anti-submarine torpedos, radars, jet aircraft engines, radios and other equipment the Yugoslaves want are available. Gen. Nikola Ljubicic, Yugoslavia's federal secretary for national defense, met with Defense Secretary Brown and Army Chief of Staff Bernard Rogers in late September to discuss other matters of mutual interest.

• About a meeting with Leonid Brezhnev, Senator Ted Kennedy said: "One thing is very clear . . . if there were a nuclear explosion by the United States in the Soviet Union, they would retaliate completely. And if they were to drop weapons on the United States, they would expect the United States to retaliate completely."

EXPERIMENTAL XFV-12A AT LANGLEY FIELD

• Following an initial phase of dynamic hover testing at the Langley test center, the thrust augmentors of the XFV-12A are back at Rockwell International for reworking so that the aircraft may achieve a better "augmentation ratio." The XFV-12 is a technology prototype built to demonstrate the feasibility of the Thrust Augmented Wing Concept, a new vertical short takeoff and landing design which integrates propulsion, lift and control surfaces to permit an aircraft to take off vertically and achieve speeds in excess of Mach 2 in level flight. Such aircraft, in naval configurations, could vastly outperform today's V/STOL and make the super carrier obsolete.

CONSUMERWATCH

There Once Was A Time When The Computer Was Always Right: No More

How To Shoot Down Those Computer Errors

"Charge it!" They're magic words until the bill arrives, and then it's black magic, especially if someone's computer has made a mistake. For those who've been hassled by a credit department's computer, there's now relief. Consumers have new rights to exercise when it looks like their bill is wrong.

Fair Credit Billing, an addition to the Truth in Lending law, now requires prompt correction of billing mistakes. Consumers may challenge either the purchase or the price of any item that appears on their billing statement, which means you may challenge as an error any charge:

- Not made either by you or someone authorized to use your account.
- Poorly identified, made for a different amount or made on a date different from that shown on the statement.
- For something which you did not accept on delivery, or which was not delivered according to agreement.

Billing errors also include:

- Failure to credit your account properly
- Computational or accounting mistakes
- And failure to mail your statement to your current address (provided you notified the creditor of your address change at least 10 days before the billing period ended.)

A request for additional information or an explanation about a questionable item is also considered a billing error.

In Case of Error. If you think your bill is wrong or want more information about it, break out pen and paper.

You must notify the creditor in writing within 60 days after your bill was mailed. And you must include your name and account number; a statement that you believe the bill contains an error and an explanation of why you believe there is an error; and the suspected amount of the error.

While you are waiting for an answer, you do not have to pay the amount in question (the "disputed amount") or any minimum payments or finance charges that apply to it. But you are still obligated to pay all parts of the bill that are not in dispute.

The creditor must acknowledge your letter within 30 days, unless your bill is corrected before that. Within two billing periods — but in no case more than 90 days — your account must either be corrected or you must be told why the creditor believes the bill is correct.

If the creditor made a mistake, you do not pay any finance charges on the disputed amount. Your account must be corrected for either the full amount in dispute, or for a part of that amount along with an explanation of what you still owe. You then have the time usually given on your type of account to pay any balance.

If no error is found, the creditor must promptly send you a statement of what you owe. In this case, the creditor may include any finance charges that accumulated and any minimum payments you missed while you were questioning the bill.

If you still are not satisfied, you should notify the creditor within the time you have to pay your bill. However, the creditor has now fulfilled his legal obligation (except for the requirements that follow regarding your credit rating).

Your Credit Rating. Once you have written about a possible error, the creditor may not give out information to other creditors or credit bureaus or threaten to damage your credit rating. Until your letter is answered, the creditor also may not take any collection action on the disputed amount, or restrict your account because of the dispute. A creditor can, however, apply the disputed amount against your credit limit.

But, after the bill has been explained — and if you still disagree in writing within the time allowed for payment and do not pay — the creditor can report you as delinquent on your account and begin collection proceedings. If this is done, the creditor must also report that you challenge your bill, and you must be provided in writing the name and address of each person to whom your credit information has been given. When the

☆ U.S. GOVERNMENT PRINTING OFFICE: 1979—280-824/2

matter is settled, the creditor must report the outcome to each person who received information about you.

Penalties and Other Provisions. The law provides that any creditor who fails to comply with these rules applying to billing errors and credit ratings automatically forfeits the amount of the item in question and any finance charges on it, up to a total of $50, even if no error occured. You as an individual may also sue for actual damages plus twice the amount of any finance charges, in any case not less than $100 or more than $1,000. Class action suits are also permitted.

The law also includes requirements for prompt reporting and crediting of payments or return of mer-

To Find Out More. Creditors must provide you a complete statement of your Fair Credit Billing Rights when you open an account and at least twice annually (or send a shorter version with each billing). If you have any further question about Fair Credit Billing, you may write to any Federal Reserve Bank or to the Board of Governors of the Federal Reserve System, Washington DC 20551.

Proposition 13 After 6 Months

Six months after California voters approved Proposition 13 by a 2 to 1 margin, the size and spending habits of government remains the same.

Not one permanent California teacher has lost his or her job because of Prop 13 alone, nor have massive layoffs taken place. Less than 12,000 of the state's 1.4 million employees have been effected; the Los Angeles school system, which predicted a need to layoff 20,000 of its 27,000 teachers has hired 1,800 new teachers; most school districts are spending more and few communities have lost any essential services. Dire predictions for the California economy have not come true.

Thanks to a large state surplus, attrition, a freeze on hiring and increased charges for many services that were formally free, the impact of Prop 13 has yet to be felt except in those smaller jurisdictions where primarily property taxes have filled government coffers.

According to available reports, the programs being hit hardest are those with the weakest lobbies — libraries, recreational services and cultural programs — not those that are least efficient.

Sometimes There's Too Much Information Available

Which One To Buy: The Home Fire Detector Riddle

Scare tactics aren't nice, but neither are fire statistics. Home fires are a serious threat. Residential fires kill more than 6,000 and injure more than 300,000 people every year. And the majority of those deaths and injuries are caused by smoke, not flames.

Fire and smoke inhalation-related deaths and injuries can be reduced, even though many fires occur at night when everyone is asleep. Home smoke detectors — available in most hardware stores at prices from $10 to $50 — can save lives by waking people up before smoke suffocates them or makes them too dizzy to react properly.

How They Work. There are two basic kinds of smoke detectors — those that operate photoelectrically and those that work through the principle of ionization. Each senses smoke differently, which is why you'll hear arguments for and against each kind.

According to the US Consumer Product Safety Commission, either type can provide adequate home fire protection. In fact, there often appears to be more differences in performance between two models of the same type than there are between the two types.

The Ionization Type. Inside ionization detectors a small and carefully shielded piece of radioactive material "ionizes" the air that enters the smoke detector's chamber. (This happens because even a very weak source of radiation can increase the air's ability to conduct electricity.) The clear ionized air then conducts a very weak electrical current that tells the detector everything is "okay."

When tiny, almost invisible particles of smoke drift into the chamber, they reduce electrical current flow in the ionization detector's smoke chamber.

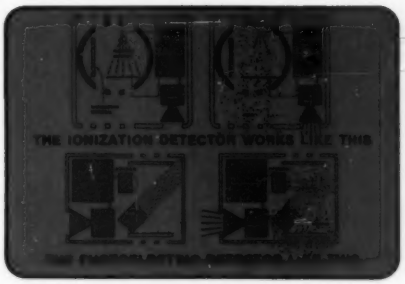
Since hot blazing fires tend to produce small smoke particles, and since these small particles float further in rising hot air, ionization detectors usually have a slight edge over photoelectric detectors in giving early warning of open, flaming fires.

Photoelectric Detectors. The photoelectric detector is the most common kind purchased for home use. It detects smoke by "seeing it" in much the same way your eyes do because particles of smoke reflect light.

When smoke particles are carried into the detector by circulating air, they reflect or scatter light from a small lamp inside the device. Some of that scattered light falls on a photocell, causing it to generate enough electricity to actuate the detector's alarm circuit.

Because they "see" the light reflected by smoke particles, photoelectric smoke detectors sense larger particles than do ionization detectors. And since cooler, smoldering fires produce more large particles than do hot, blazing fires, photoelectric detectors are somewhat more likely to give the alarm while a fire is still smoldering.

Lots of Protection. Many household fires produce detectible amounts of both visible and invisible smoke, so that either kind of detector



has a high enough probability of giving you enough warning to escape.

Some manufacturers offer a heat sensing device too, either as a standard or optional on their smoke detectors. Others offer the heat detector as a separate product. In either case, heat detectors do offer protection, but they must be close to a fire to work.

Heat detectors are especially useful where other detectors could be fooled: places like the kitchen, the garage or the furnace room.

But a heat detector is no substitute for a smoke detector. A heat detector is perfectly capable of ignoring smoldering fires that put out lethal amounts of smoke, carbon monoxide and other toxic gases. And it is most often smoke not flames that kills.

The riddle about which kind of smoke detector to buy is really no riddle at all. The only question is: why weren't good, cheap smoke detectors available sooner? A lot of lives could have been saved.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1979—280-824/2

CWRU LIBRARY SYSTEM
3 9156 00792383 7